

# AMERICAN BUILDER

AND  
BUILDING  
AGE

THE WORLD'S GREATEST BUILDING PAPER

1942 FORECAST  
AND PREVIEW  
NUMBER





# Smart Property Owners in Cities and on Farms

*Are Putting Their Extra Cash into Building Improvements!*

**GO AFTER THAT PROFITABLE  
REMODELING BUSINESS AND SEE  
HOW FAST IT RUNS INTO MONEY!**

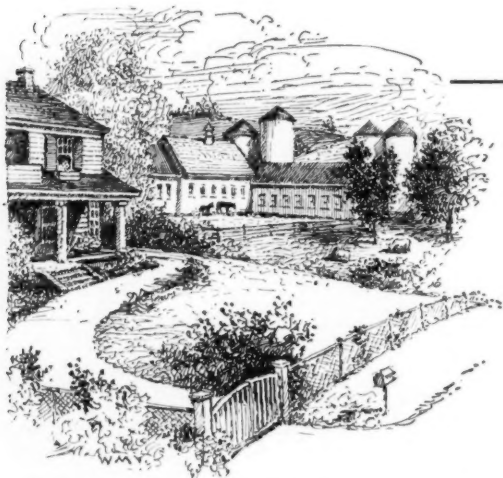
**T**HERE'S MONEY AROUND! Defense workers are getting good wages. *Farm products are bringing high prices*—and farmers are being urged to produce more!

And a lot of that extra cash is going right into building improvements—because smart property owners know *that's a good way to save money*. City folks will be wanting a room or two added—and that kind of a job is "duck soup" for you with

the help of Celotex Insulating Interior Finishes!

Farmers will be wanting to increase egg production and milk yield by insulating laying houses and dairy barns—*and there's a nice business for you*, with the aid of Celotex Vapor-seal Sheathing! And Celotex Rock Wool Products—and Triple-Sealed Asphalt Roofing Products—can help you get dozens of other remodeling jobs, easily and profitably!

Remember: This kind of work can be done without the use of any "critical" materials—*without interfering with Uncle Sam's defense program in the least*. Talk to your Celotex dealer. He'll be glad to cooperate in every possible way!



## CELOTEX

REG. U. S. PAT. OFF.

### BUILDING PRODUCTS

INSULATING SHEATHING, LATH, INTERIOR FINISHES  
ASPHALT SHINGLES, SIDING, ROLL ROOFING  
HARD BOARDS, ROCK WOOL BATTS, BLANKETS  
GYPSUM PLASTERS and LATH and WALL BOARDS

*Sales Distributors Throughout the World*

**THE CELOTEX CORPORATION • CHICAGO**

Published monthly by Simmons-Boardman Publishing Corporation, 105 W. Adams St., Chicago, Ill. Subscription price, United States, Possessions, and Canada 1 year \$2.00; 2 years, \$3.00; foreign countries: 1 year, \$4.00; 2 years, \$7.00. Single copies, 25 cents. Entered as second-class matter Oct. 11, 1930, at the post office at Chicago, Illinois, under the act of March 3, 1879, with additional entry as second-class matter at Mount Morris, Ill. Address communications to 105 W. Adams St., Chicago, Ill.



# YOU CAN USE *Ordinary* STORM SASH WITH THESE STEEL CASEMENT WINDOWS



AT LEFT—As shown, you simply hang an ordinary storm sash at the top, on the outside of the Fenestra Package Window. Storm sash not supplied by Fenestra.

ABOVE—Then you link the storm sash at the bottom to the steel casement ventilator, from the inside, with a hook-and-eye supplied by Fenestra.

Visit the Fenestra Exhibit at your Lumber Dealer Convention

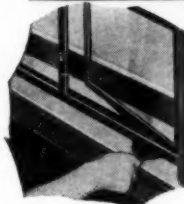
## —AND YOU GET THESE THREE NEW BENEFITS

### OPENS AUTOMATICALLY



Linked to the casement ventilator at the sill, the storm sash opens automatically when the casement window is opened from the inside for fresh air.

### OPENS EASILY WITH ONE HAND



Both storm sash and casement vent swing instead of slide; casement vent is steel, which never binds or sticks—hence double window opens easily.

### PROTECTS LIKE A CANOPY



When this double window is opened for winter ventilation, the storm sash forms a protecting canopy—keeps snow or rain from entering a room.



INSTALLED OUTSIDE IN 5 MINUTES



TRIMMED INSIDE IN 8 MINUTES

The Fenestra Package Window includes a Bonderized Steel Casement Window, already glazed, wood cased and outside trimmed, with all hardware included; with prefit inside wood trim if desired. It's installed in a jiffy . . . It helps sell houses—provides better appearance, more daylight, better ventilation, easier opening, safer cleaning, permanent weather-tightness, better screens, higher quality, lower upkeep . . . Get Fenestra facts and prices. Use coupon.

THE NEW LOW-COST  
*Fenestra*  
PACKAGE WINDOW

DETROIT STEEL PRODUCTS COMPANY,  
2260 East Grand Blvd.,  
Dept. AB-1, Detroit, Mich.

I am a ( ) Contractor ( ) Owner  
( ) Dealer ( ) Architect  
Please send me the new Fenestra Package Window  
catalog and Price List.  
Name \_\_\_\_\_  
Address \_\_\_\_\_ State \_\_\_\_\_  
City \_\_\_\_\_



## THESE BLUEPRINTS MAKE REMODELING EASY!

... and remodeling is a mighty important building market for 1942! Today, builders and contractors are being called upon to "dress up" old homes ... to make them suitable for housing the workers in America's war industries.

In order to do your share of this "Repair for Defense" business quickly, economically and profitably, you'll want a complete set of these free blueprints of Red Cedar Shingle applications.

For remodeling old and unsightly exteriors, regardless of existing sidewall material, builders have found that no other product has the economic advantages of Red Cedar Shingles. The new Double-coursing\* style is considered "best all 'round" because it provides modern architectural beauty and good insulation—because it is a time-saving method that conserves "critical" war materials. This construction technique is as simple as A-B-C when you use the helpful blueprints. Mail the coupon today!



\*Double-coursing: Shingles are laid double as shown here. The exposed No. 1 shingles slightly overlap to provide attractive shadow lines. Inexpensive No. 2 or No. 3 shingles are used for the concealed courses and doubling the thickness of shingles makes it practical to increase the weather exposure—thereby making this method economical.

**RED CEDAR SHINGLE BUREAU**  
Seattle, Washington . . . . . Vancouver, B. C.

NO BETTER BUILDING MATERIAL HAS EVER BEEN SPECIFIED  
BY CONTRACTORS AND BUILDERS!



# Red Cedar SHINGLES

### Free BLUEPRINTS

RED CEDAR SHINGLE BUREAU AB142  
5507 White Building, Seattle, Washington  
Gentlemen: Please send, free, a set of Architectural blueprints of Shingle Applications.

NAME .....

ADDRESS .....

CITY .....

STATE .....

# C E R T I G R A D E RED CEDAR SHINGLES



**RED CEDAR SHINGLE BUREAU**  
SEATTLE, WASHINGTON VANCOUVER, CANADA



# A Superior <sup>heat</sup> {circulating} Fireplace



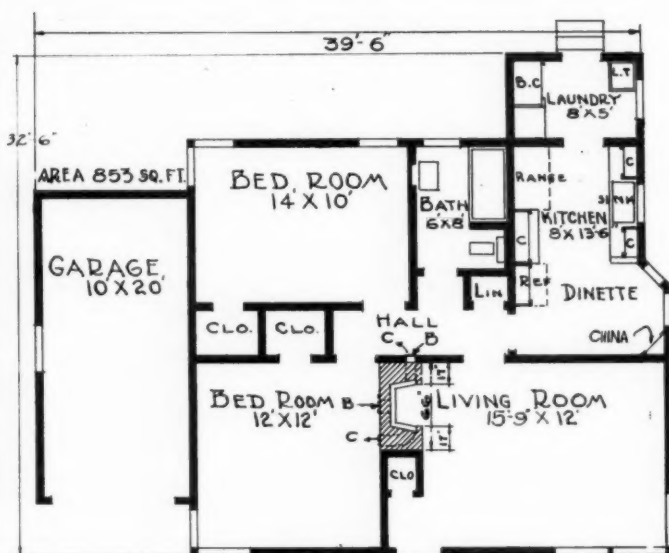
—comfortably  
—economically

heats  
the small  
**DEFENSE  
HOME**

—See floor plan at left

Four Floor plans, two elevations for each, similar to one illustrated, will be mailed for 25c.

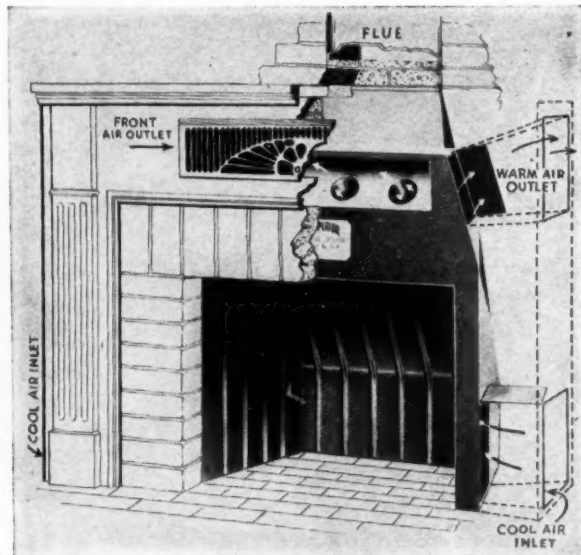
THE SUPERIOR FIREPLACE CIRCULATOR is a perfect double-walled metal form (hearth to flue)—firebox, throat and built-in damper. Around it the masonry is easily and economically built to complete a fireplace of any design.



## SPECIFICATIONS

No. 34—Model "A" SUPERIOR FIREPLACE CIRCULATOR No. 3 or 28 FUEL GRATE B—COOL AIR INLET 8" x 12" IN HALL AT FLOOR LEVEL, B—COOL AIR INLET 12" x 8" IN BED ROOM, C—WARM AIR FAN OUTLETS; BOTTOM OF GRILLES 38" FROM FLOOR; BED ROOM OUTLET—8" x 8"; HALL OUTLET—12" x 8".

Illustration below shows the SUPERIOR CIRCULATOR with part of masonry cut away.



## During These CRITICAL TIMES

it is important that homes of all sizes be equipped with a SUPERIOR FIREPLACE that will give comfortable heat throughout, so that occupants will not be without heating facilities should something happen that would prevent the public utilities from rendering service. Some building ordinances have already given this consideration and have made it mandatory that all houses have chimneys.

The SUPERIOR CIRCULATOR adds but little to the cost of the fireplace. It saves labor, firebricks and damper required in ordinary construction. A SUPERIOR gives many more years of service. It is the only metal firebox

## Reinforced With Die-pressed Ribs

which adds three times more strength to the metal. The SUPERIOR is a sound investment. It saves fuel, also redecorating costs because it operates smokeless.

Architects, Draftsmen, Contractors, Builders and Building Supply Dealers write on your letterhead for courtesy copy of 36-page book of SUPERIOR FIREPLACE Designs and other complete fireplace heating information on how to completely heat the small home with a SUPERIOR FIREPLACE.

## SUPERIOR FIREPLACE CO.

1046 South Olive St.,  
Los Angeles, Calif.

# FOR NEW CONSTRUCTION OR REMODELING



*The remodeled First Federal Savings and Loan Building, Iowa City, in which this Square D equipment is installed.*

## **SQUARE D METER SOCKET TROUGH and MULTI-BREAKERS**

● The remodeling of an office building offered a wiring problem which Square D answered with Meter Socket Trough and Multi-breakers. The above photograph shows the installation on one of the floors, serving twelve office suites, each separately metered and with main circuit breaker to lock out any service. The specifications originally called for fusible equipment. There were obvious difficulties because of space limitations, so Square D Multi-breakers were substituted.

Square D supplied the meter trough and the Multi-breakers. In addition to meeting the limited space requirements, Multi-breakers gave the additional advantages of branch circuit switching, non-tamperable protection, and no fuse replacement. The cost of the entire wiring job was \$300 less than with the fusible equipment originally specified.

Here's a happy solution for builders and realtors who encounter similar situations in building or remodeling. Check with your electrical contractor.

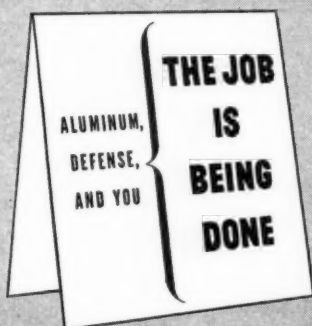
See our Catalog in SWEET'S 23/12

CALL IN A SQUARE D MAN

### **SQUARE D COMPANY**

DETROIT-MILWAUKEE-LOS ANGELES  
KOLLSMAN INSTRUMENT DIVISION, ELMHURST, NEW YORK  
IN CANADA: SQUARE D COMPANY CANADA LIMITED, TORONTO, ONTARIO

# ALUMINUM, THE FUTURE, AND YOU



**RIGHT NOW OUR FACTORIES** have only one interest: to make more Defense Aluminum than the world has ever seen before. Every resource we can muster is concentrated on that job.

**WHEN AMERICA HAS WON THROUGH** to make the world safe for our children to live in . . . the saying is: What a lot of aluminum is going to be available for everybody.

**THE REAL POINT TO PONDER** is how to get set to make that deluge of light metal work for you. In the kind of world we're going to have, sure as fate, the man who fails to call, now, on every resource at his command is going to be left at the post.

## WE'VE COINED A WORD:

**IMAGINEERING.** It's the fine art of deciding where you go from here. It's the act of thinking out what you are going to face, and doing something about it now. *Imagination* plus *engineering* is a formula for the future you're going to hear more about.

**A MAN CAN** be producing for Defense at top speed and be imagineering at one and the same time. In fact, the more he is devoted to Defense now, the more he needs imagineering for **THE DAY WHEN.**

**OBVIOUSLY,** you can imagineer with steel, copper, glass, zinc, plastics, or what have you. We hope you will, because the world is going to need better use of all materials than it ever saw before.

**THE CLOSER YOU GET TO FUNDAMENTALS** the more quickly you must decide that the great need is going to be for the very things Alcoa Aluminum does best: Lightness with strength, resistance to corrosion, reflectivity, workability and all the rest of its powers all wrapped up in a low-cost package full of unlimited possibilities for you, personally, in your business.

**TWO HEADS ARE BETTER THAN ONE.** Already, many an industry, many a company, has called us into an imagineering session. We've seen things projected that will make news when the curtain can be lifted. Usually we've been able to help with some imagineering of our own.

**DOES THIS SUGGEST ACTION? WE HOPE SO.**

Aluminum Company of America, Pittsburgh, Penn.

# ALCOA ALUMINUM





# 3 PLACES where Mueller Heating Equipment can help you in 1942

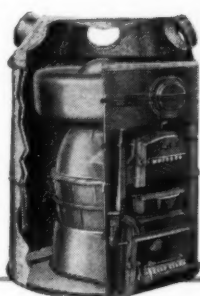
*-and here's what  
you need for No. 1*

These moderately priced  
**MUELLER FURNACES**  
are suitable for \$6000 "defense  
homes"—as well as modernization  
and replacement

1. New high-priority defense housing
2. Home modernization for added dwelling units
3. Direct defense construction

For a successful year in 1942, get your share of these three classes of work which government authorities consider essential — and do it with first-quality Mueller equipment . . . Just because home-building is curtailed, new homes are not necessarily easy to sell. Now, as always, you need the modern appearance and nationally known name of Mueller equipment to help you sell. There is no job so small that you can afford to "take a chance" by installing inferior furnaces... If you need heating equipment for a single defense house or a large group of houses — for factory buildings, barracks, airplane hangars, warehouses, etc. — for use with any fuel — ask your nearest Mueller dealer or write . . .

L. J. Mueller Furnace Co.,  
2001 W. Oklahoma Avenue,  
Milwaukee, Wisconsin.



*Coal*

MUELLER SERIES  
F COAL-FIRED  
FURNACE.  
MUELLER SERIES  
400 COAL-FIRED  
STEEL FURNACE.  
These units also avail-  
able in package-type  
Winter Air Conditioner.



*Oil*

New  
MUELLER SERIES OVP  
VERTICAL OIL-FIRED  
WINTER AIR CON-  
DITIONER. Equipped with  
Mueller Vaporizing Oil  
Burner.



New MUELLER SERIES OHP  
HORIZONTAL OIL-FIRED WINTER AIR  
CONDITIONER. Designed especially for  
basement installations.

B-8

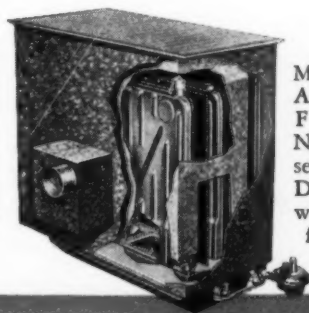


*Gas*

New  
MUELLER  
SERIES CVP  
ALL-CAST-IRON (and  
SHP STEEL) GAS-  
FIRED WINTER AIR  
CONDITIONER. Small,  
compact, cabinet types  
for utility room, basement.



New MUELLER  
SERIES GS90  
GAS-FIRED  
GRAVITY FUR-  
NACE. Highly  
efficient up-draft  
design. Also  
GR90 with round  
casing.



MUELLER FLOR-  
AIRE GAS-FIRED  
FLOOR FUR-  
NACE. Completely  
self-contained. Also  
Dual Flor-Aire  
with wall registers  
for two adjacent  
rooms.

**MUELLER** Milwaukee 

HEATING AND  
AIR CONDITIONING

# RUBER-OLD TIMBERGRAIN



## THE SHINGLE YOU ASKED FOR!

**1**

You wanted an asphalt shingle  
of **OUTSTANDING BEAUTY**

Timbergrain is! It is *revolutionary* in its beauty! All say, "It's the most beautiful asphalt shingle ever made."

**3**

You wanted  
**DEEP SHADOW LINES**

Timbergrain's thick-butts are accentuated by deep, black, *built-in* shadow lines, intensifying shadow depths on roof.

**2**

You wanted **ROUGH, RUGGED  
TEXTURE . . . EYE VALUE!**

Timbergrain has it! Timbergrain's textured surface, in two-toned coloring, is rough, rugged, *built-up*—providing unusual transverse shadow effects!

**4**

You wanted **CHARACTER and  
MASSIVENESS**

Timbergrain's extra-thick butts, with the deep shadow lines, provide a roof of character, distinction and massiveness.



# TODAY'S MOST TALKED ABOUT ASPHALT SHINGLE!

## Approved by the building profession for its new and revolutionary features

**"Go all-out for enduring beauty in an asphalt shingle!"**

That was the request made to Ruberoid by the building profession and by home owners.

Timbergrain answered that challenge as no other shingle has ever done. And today—months after its introduction—Timbergrain is still blazing a trail, making new friends by the thousands.

Timbergrain has *everything* the building profession asked for in an asphalt shingle. A textured surface, in two-toned coloring, that is rough, rugged, *built-up*, providing transverse shadow effects. Thick-butts, accentuated by deep, black, *built-in* shadow lines. Character. Massiveness. Strength. Extra weather protection. Fire-safety.

Read—on these pages—each one of the five features that make Timbergrain so outstanding. And remember, this shingle comes in four attractive color blends—Greentone, Redwood, Bluetone, Slatetone.

For new homes—or homes being remodeled—Timbergrain is the year's sensation! Recommend and sell this style leader. Write for colorful folder and complete information. Address Dept. AB-1, The Ruberoid Co., 500 Fifth Avenue, New York, N.Y.

**5**

### You wanted INWARD LONG LIFE and DURABILITY

Timbergrain—made of time-tested materials—provides great strength, more weather protection, more safety, longer life. Timbergrain is also fire-safe.\*

\*Approved by Board of Fire Underwriters, Inc., Class "C" Label.

## Check These Extraordinary Features!

*Time Honored Ruberoid Quality*

*Rough Rugged Built-up Surfacing*

*Charming Two-Tone Colors*

*Deep Black Built-in Shadow Lines*

*Extra Heavy Thick Butts*

*Extra Strength and Weather Protection*

#### SPECIFICATIONS:

Size each Strip . . . . .	12" x 36"
Av. approx. weight per square . . . . .	250 lbs.
Strips per square . . . . .	80
Bundles per square . . . . .	3
Exposure . . . . .	5"
Headlap . . . . .	2"

Available in GREENTONE, REDWOOD, BLUETONE  
and SLATETONE BLENDS



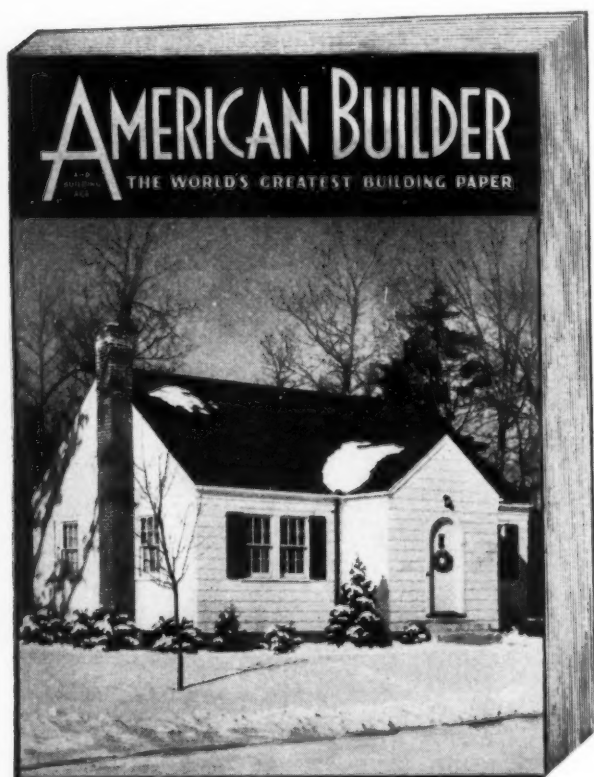
**RUBER-OLD**  
ROOFING AND BUILDING PRODUCTS





# HOME BUILDING HISTORY WILL BE *Remade* IN 1942

*With the United States  
at War . . . Building  
Men Everywhere . . .  
Should Read AMERICAN  
BUILDER Regularly . . .*



## WHAT IS THIS WORTH TO YOU?

The latest, most salable home designs suited to today's conditions. Remodeling and renovation suggestions . . . Practical construction and job pointers to speed operations and reduce costs . . . Tested floor plans . . . Detailed architectural drawings of interiors, cornices, windows, flashings, doors, etc. . . . New items of equipment . . . Inspirational photos from which you can adapt your own ideas on exterior or interior design . . . Model kitchens, bathrooms which require a minimum of critical metals . . . Exterior details, views of entrances, chimneys, porches, windows, gates, fences . . . Photos and drawings of "Extensible Homes" to be built and lived in today, but which also provide space for additional rooms and conveniences to be installed later.

You receive such information, and more, throughout the year in AMERICAN BUILDER. Don't fail to take advantage of it. Use the order form on next page!

In fact, the developments which take place in 1942 might well reshape the future of the home building industry for years to come.

Why? Because of the dire need of reconciling two opposing forces which are a direct outgrowth of the war. The ever-mounting need for homes, on the one hand. And on the other, the restrictions which stand in the way of fully satisfying that demand.

If we did not know American courage and ingenuity so well—if we were unaware of the fact that most of America's industrial progress has been based on surmounting almost impossible obstacles, we might simply say that a great need for homes exists, yes—but under present conditions we may just as well give up doing anything about it.

## But—See What Actually Happens in 1942 . . .

See what is already beginning to happen in the home building industry! In this issue of AMERICAN BUILDER, and in subsequent issues as developments take place, you will see what ingenious home design ideas are being put to use to cut down on critical materials, to speed up operations, to reduce construction costs as a whole. You will see the new uses which will be made of such materials as are available in plentiful quantities. How they can be made to do an even better job than some of the scarcer materials we have been accustomed to using. You will see what synthetics are being introduced and how successfully they can be used to build longer lasting, more livable, more attractive, more economical homes.

## Keep Alert to the War-Time Trend in Home Building

Spare yourself the anguish that comes with uncertainty. Be in a position to know what is afoot. Train your eye on the business to be had. Know *where* to find it. Know how to *get* it.

AMERICAN BUILDER, in every way, is geared to keep you abreast of the war trend in the home building industry. Our field men will report to you on conditions all over the country. Our Washington representatives will keep you on the "inside" track at all times on legislative moves, changes in priority regulations.

Our building experts will tell you what building men are doing to contend with problems being met inside and outside of "defense areas." They will sift the entire industry for ideas on design, materials, cost conservation, methods of speeding up construction most practically and effectively suited to today's conditions.

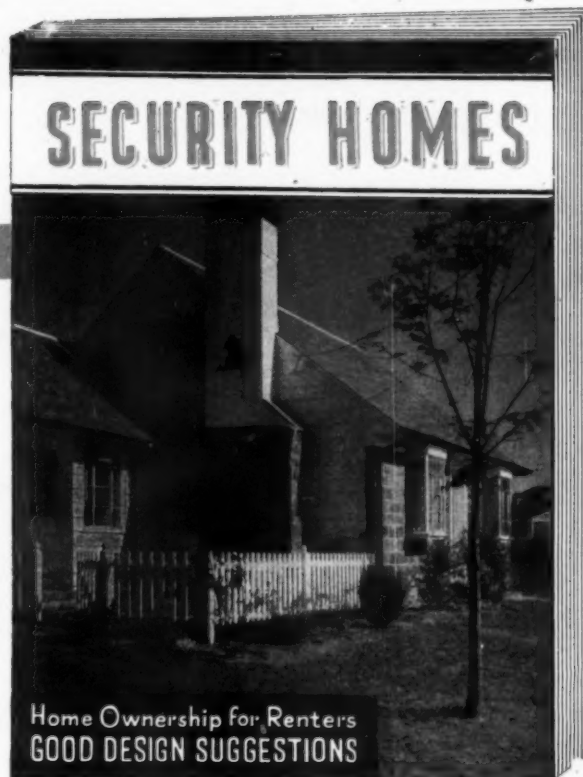
# AMERICAN BUILDER

# Here Is A Book Worth Having...

## 180 PAGES OF PROVEN SUCCESSFUL LOW-COST HOME DESIGNS

Consider the value and convenience of having in a single source such a wealth of home design suggestions. One hundred and eighty pages of today's fastest-selling homes, selected by our editors from among the best low-cost homes built in the East, West, North and South. You will find this volume brimful of photographs of exterior and interior views, floor plans, elevations and construction details. This book will do wonders in supplying you with ideas which will satisfy practically every taste, every pocketbook, every construction problem.

**SECURITY HOMES WILL BE MAILED TO YOU AT NO EXTRA  
COST UPON RECEIPT OF YOUR NEW OR RENEWAL  
SUBSCRIPTION FOR AMERICAN BUILDER  
At \$2 for One Year—\$3 for Two Years**



### PARTIAL CONTENTS

*Included among the more than 90 separate chapters:*

- \$25-a-Month House: 27x28 Basic Plan. How appearance is built up, costs held down.
- Model California Home: A headliner in design. Shingled home with choice of three floor plans.
- Miami's Wonder House: New ideas in materials and planning.
- Plywood Home Attracts Thousands: Details of the Los Angeles "house in the sun."
- Northwest Styled Puget Sound Home: Low, rambling layout.
- Variations in Economy Type of Six-Room Plan: Three elevations, one floor plan.
- Low-Cost Concrete Masonry Homes: At only \$22 a month.
- Model Living Home In Connecticut: 30,000 flock to see this semi-modern five-room house.
- How to Restyle an Old Time Apartment: Two flats brought up-to-date.
- Round Tower Entrance Homes: A study in stone details.
- 100 Cottages Built on 100 x 100 Foot Plots: Proving best value sellers.
- Six Low Cost Home Designs: Planned and styled for today's home market.
- Three Distinctive Kansas City Homes: Attractive in appearance, efficient in use.
- Security Expressed in Brick: Graceful Cape Cod designs at Richmond, Virginia.
- A Gem of Compactness: Six room French design.
- Sixteen Houses on Plot 535x138: Semi-detached units arranged around a court.
- Model "Lumber Dealer" Economy Home: Full working plans—Low cost plank and beam construction home.
- Hollow Brick Wall Design: Five rooms and attached garage on one floor. Combined beauty, safety and economy.
- A Street of Homes: Basic floor plan in four variations for the exterior.

*Supply Is Limited*  
**ACT TODAY**

If you want to be sure to receive a copy of **SECURITY HOMES**, we suggest that you take advantage of our offer today. All you need do is send in your new or renewal subscription for **AMERICAN BUILDER** at the rate of \$2 for one year, or \$3 for two years. A copy of **SECURITY HOMES** will be sent to you postpaid, by return mail.

**CLIP AND RETURN THIS COUPON NOW!**

**AMERICAN BUILDER**

30 Church Street, New York, N.Y.

Enclosed is \$.....for which enter my subscription for {One year \$2 ☐  
Two years \$3 ☐

New ☐

Renewal ☐

**and include with my subscription at no extra cost a copy of the  
new 1941 Plan Book, "SECURITY HOMES"**

Name .....Street.....

City .....State.....

Occupation ..... This offer is good in U.S., its Possessions and Canada

1-42

*The World's Greatest Building Paper*

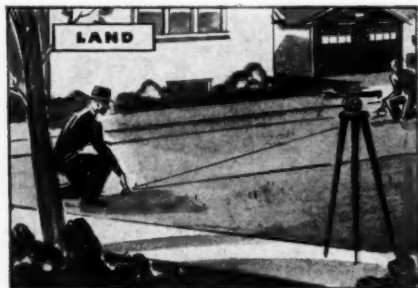
30 Church St., New York



## *The American Workman Must Not Be Penalized!*

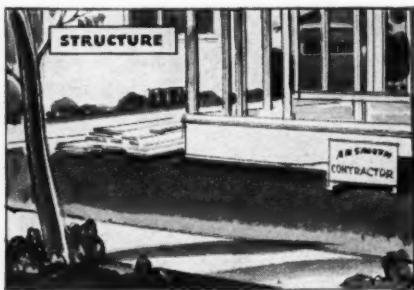
### **The More Modest His Income The Greater His Need For Home Equipment That Will Serve Him Well And Long, At Low Operating Cost.**

Houses go beyond land and structure. A *third* factor, household equipment, is also essential and today it is even more vital than ever. Now, when every penny counts, when limited budgets are handicapped by higher living costs, we



**LAND FIRST, then . . .**

must install equipment that provides low operating cost, low maintenance cost and long life.



**STRUCTURE, then . . .**

Efficient, quality-built wiring systems, heating plants and kitchen equipment usually contribute more in oper-

ating economy than any increase that they may cause in amortization payments when financed under a modern long term mortgage.



**EQUIPMENT, and you have a HOME.**

Install the type of equipment that is best for the victory worker and at the same time is best for you.

*Remember, the homes you design and build today are the homes that will build your reputation for tomorrow.*

GENERAL ELECTRIC HOME BUREAU, BRIDGEPORT, CONN.

# GENERAL ELECTRIC



# WANT TO KNOW HOW TO BUILD HOUSES FAST?

Send for this free book that  
gives detailed description of  
**PREFABRICATION WITH  
DOUGLAS FIR PLYWOOD**



ANOTHER FINE EXAMPLE  
OF



One of the smart designs built by  
National Homes Corp., Lafayette, Ind.  
The proper grades of Douglas Fir Ply-  
wood are used for roof sheathing, in-  
terior walls and ceilings, exterior finish.

● The severe housing shortage in many parts of the nation is making it necessary for builders to increase their tempo . . . to produce more and better structures in less time. Prefabrication has proved itself practical, and now every month more than 1000 buildings, in which Douglas Fir Plywood serves as a basic structural material, are being constructed by the leading prefabricators.

The time saved, the reduced overhead, the improved working conditions and the many other advantages of prefabrication should be considered and

studied by every builder. And even if you finally decide that prefabrication is not suited to your operations, you can still benefit greatly by using the prefabricators favorite material, Douglas Fir Plywood, instead of traditional materials. Douglas Fir Plywood is truly the "Modern Miracle in Wood" because it combines large size, light weight and amazing strength . . . because it adds rigidity, provides excellent insulation and builds kick-proof walls. Send now for your free copy of "How to Build Houses Fast!" Douglas Fir Plywood Association, Tacoma, Washington.



**SPECIFY DOUGLAS FIR PLYWOOD  
BY THESE "GRADE TRADE-MARKS"**

**PLYPANEL D.F.P.A.**

**EXT.-D.F.P.A.**

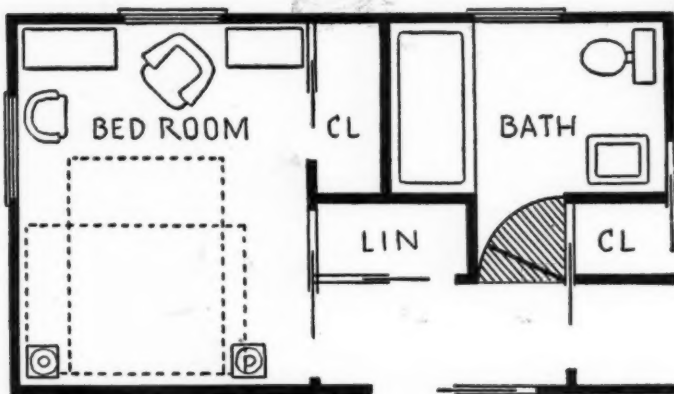


*You can get at least*  
**8 MORE SQUARE FEET OF USABLE  
 FLOOR SPACE IN ANY ROOM**  
*simply by using...*

## SAV-A-SPACE SLIDING DOOR UNITS

### WRONG... Ordinary hinged doors steal valuable floor area!

Every standard-size hinged door takes up at least 8 square feet of floor space and 21 square feet of wall space... space made unusable for furniture, pictures or other decorations. If furniture is placed in the path of a door, striking and marring is certain. Hinged doors in small halls not only obstruct passage, but also bang into each other if used at the same time or if one is accidentally left open. In this typical plan, hinged doors waste over 40 square feet of usable floor space—space that costs about \$200 to build in the average U.S. 1-story home. And remember, this waste of space and money is for only a few rooms. The figures for the entire house would be larger.

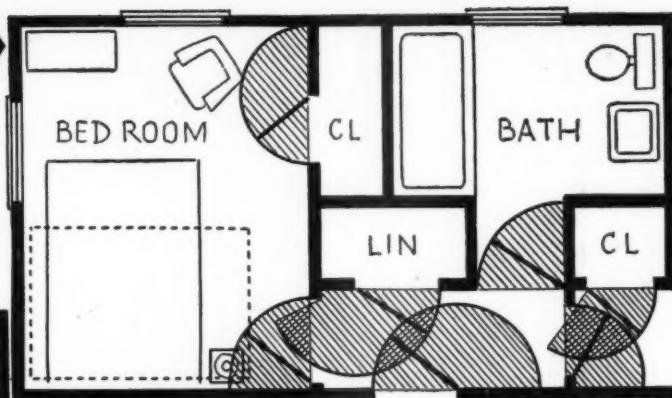
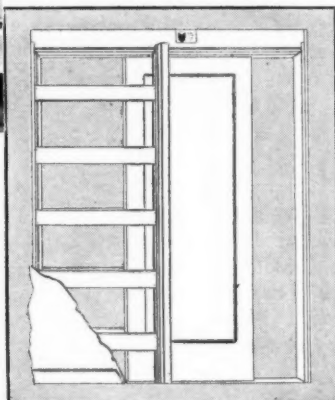


**EASY TO INSTALL!** The frames of Sav-A-Space Units are delivered to your job assembled, ready to install in standard 2" x 4" studding. No extra thick walls are required. No special tools or equipment are needed for the installation. After frame is in desired location, dry-wall finish or plaster is placed over cross members, the same as over the studding.

### Mass production permits low price!

Because Sav-A-Space Units are produced in quantity, the price is extremely low. Considering the value of the space they save, they are far more economical than hinged doors. Use them in the next house you build.

**BUILT TO LAST!** Sav-A-Space Sliding Door Units operate easily and quietly... never stick or slam. The doors will be beautiful and will give better service if they're Douglas fir, the wood made durable by Nature. Stock fir doors pre-fitted at the factory are particularly suitable for use in the Sav-A-Space frame.



### RIGHT... Sav-A-Space Units take up no floor space at all!

Compare this corrected floor plan with the one above. The use of Sav-A-Space Sliding Door Units not only permits more furniture to be used in the bedroom, but also allows the bed to be placed in several positions. The hallway is never blocked. The walls are still standard 2" x 4" construction... do not have to be thicker as with most sliding doors. When the use of Sav-A-Space Units is planned in advance, the placing of electric wiring, plumbing and heating ducts is no problem. Sav-A-Space Sliding Door Units are ideal for both small and large homes, prefabricated structures, apartments, offices, stores... everywhere space is at a premium or full use of available floor and wall space is desired.

### Don't confuse Sav-A-Space Units with balky, old-fashioned sliding doors!

● The Sav-A-Space Sliding Door Unit is entirely new in design... contains no noisy metal track, no clanking, contrary wheels. The door hangs from 2 rust-proof, ball-type rollers encased in a cylindrical channel in the fir header. These rollers operate so quietly and smoothly that even after 100,000 movements of the door—far more than it would have in a normal lifetime—there is no perceptible wear on either rollers or track.

The Sav-A-Space Unit consists of frame and hanger hardware. It does not include door, finish hardware or finish trim. Any stock door may be used, but a stock door of Douglas fir, the wood made durable by Nature, gives the best service. Special Sav-A-Space locks and pulls are available in a variety of finishes. Sav-A-Space Units are furnished only for doors 1 3/8" thick and 6'8" high, but these 5 different widths are made: 2'0", 2'4", 2'6", 2'8", and 3'0".

### SEE YOUR LUMBER DEALER TODAY!

The chances are that he can supply you, although Sav-A-Space Sliding Door Units are just being distributed nationally. If your dealer doesn't yet handle this door, write Fir Door Institute, Tacoma Building, Tacoma, Wash., for free catalog or nearest source of supply.



# THE WHOLE TEMLOK FAMILY IS READY TO WORK FOR YOU

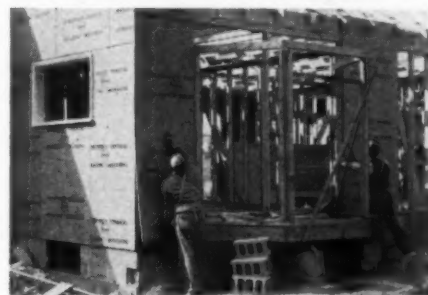


## TEMSEAL SHEATHING

The time- and money-saving advantages of Temseal Sheathing make it popular with builder and owner alike. It is Temlok Insulation sealed against air and moisture infiltration with a double coating of asphalt and strong kraft paper. Made in large, yet easily handled boards in standard sheathing thick-

ness ( $2\frac{5}{32}$ " installation is much faster than with ordinary sheathing. Temseal's bracing strength exceeds that of standard thickness wood sheathing applied horizontally . . . is comparable to the bracing strength of standard thickness wood sheathing applied diagonally. It is light in weight, yet strong and rigid.

ONE MAN can easily handle large boards of Temseal Sheathing. It is light in weight, yet strong and rigid. The double seal prevents air and moisture infiltration—guards insulating efficiency.



LARGE BOARDS of Temlok Lath are quickly and easily nailed to joists and studding. They provide efficient, lasting insulation, and a strong, firm, and permanent base for the plaster finish.

## TEMLOK LATH

Here's a low-cost lath that meets requirements for a firm-bonding plaster base and also provides efficient insulation. Temlok Lath is made in boards of convenient size, is easily cut and handled. It is ship-lapped on long edges, scoop-beveled on all four edges, for strong-fitting

joints and smoother, firmer walls. Plaster is easily applied, with a resulting bond that exceeds U. S. Commercial Standards by 77%. The insulating qualities of Temlok Lath mean substantial fuel savings and greater year-round comfort for the building owner.



QUICK INSTALLATION is an important feature of Temlok De Luxe. Either adhesives or TEM-CLIPS can be used. Temlok replaces plaster and paint or wallpaper, hence avoiding the usual drying period.

## TEMLOK DE LUXE

First of all, Temlok De Luxe offers pleasing decoration for all types of building interiors. Panel, plank, and board sizes in several attractive colors (applied at the factory) are available. But today's building owners look for more than just decoration when they choose interior finishes and they get *extra*

features in Armstrong's Temlok De Luxe. These extras include: EFFICIENT INSULATION . . . EXCELLENT LIGHT-REFLECTION . . . EFFECTIVE NOISE-QUIETING. A further advantage is the factor of speed in installation. Temlok De Luxe replaces plaster and paint or wallpaper (avoiding usual drying period).



LARGE MONOWALL PANELS (up to 4' x 12') permit many "one-piece" wall installations. A skilled building mechanic can often finish an average-sized bathroom in a day's time or less.

## DE LUXE MONOWALL

This sturdy, hardened wood-fibre board meets customers' requirements for a *highly decorative*, yet *practical* wall and ceiling finish for homes or commercial buildings. Four pleasing design types are available in a variety of different colors. Also a full line of smart channels and attractive moldings.

Get all the facts now about this hard-working Temlok Family, including the full line of Armstrong's **HARDBOARDS**. See Sweet's, or write us direct for samples and complete details. Armstrong Cork Company, Building Materials Division, 979 Concord St., Lancaster, Pennsylvania.

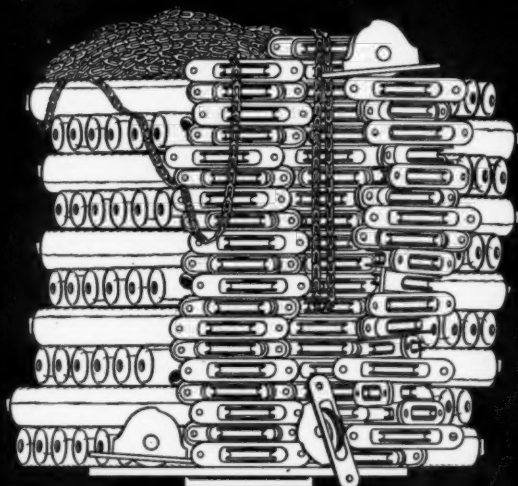


## ARMSTRONG'S TEMLOK INSULATION

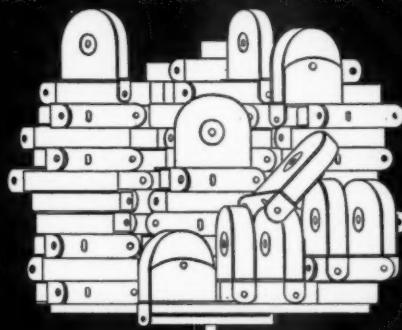
De Luxe Interior Finishes • Lath • Sheathing • Hardboards • Monowall

### "...TO USE MINIMUM QUANTITIES OF SCARCE MATERIALS . . . ."

Builders of privately financed defense housing units are promised priority assistance in securing delivery of scarce building materials. But it is specified that "it must be demonstrated that such housing will be built in such a way as to use minimum quantities of scarce materials." For double-hung windows—for small homes, hospitals, schools or industrial plants—Pullman Balances conserve iron and steel, speed up construction and save expense.



**375 POUNDS**



**41 POUNDS**



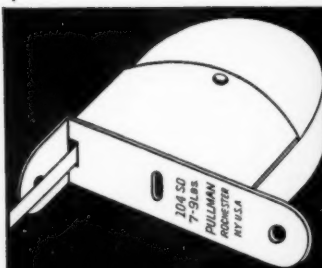
### MODERN LOW-COST WINDOW UNITS ARE PULLMAN-BALANCED

It's patriotic to use Pullman Balances. It's smart building practise, too. House for house, the cost is lower. Pullman-balanced windows permit modern narrow trim, provide smooth counter-balanced operation, serve faultlessly for the life of the building.

Many millwork manufacturers offer complete pre-fit window units, Pullman-balanced. They offer *fast* construction, *low* cost, top performance.

### DOUBLE HUNG WINDOWS TAKE IRON AND STEEL ... BUT HOW MUCH ?

Consider the average one-family defense housing unit. For fifteen window openings, sash weights, chain and pulleys weigh about 375 pounds. Pullman Balances for the same windows weigh 41 pounds. The saving on sash weights alone, for 200,000 defense houses, would provide 37,500 tons of scrap iron, enough to process 95,000 tons of steel. Add to this the fact that use of Pullman Balances *speeds up* construction, and that such procedure *costs less* than conventional construction, and you see why so many contractors demand Pullman Balances. Pullman Manufacturing Corp., Rochester, N. Y.



*Specify Window Units with*  
**PULLMAN**  
*Sash Balances*

## ARE YOU GOING TO SPECIALIZE ON

# Remodeling

## FOR THE DURATION?



**T**HERE'S a good chance that, next year, much of your work will involve the remodeling of existing houses. Wartime conditions have imposed restrictions on all new building not essential to the war effort. And, as a patriotic citizen, you've accepted those restrictions willingly. So when you turn your efforts to remodeling, don't forget that floors of Armstrong's Linoleum in kitchens and baths will help to speed up sales and rentals.

You'll find that this decorative, practical flooring wins customers' approval immediately. They've seen it advertised in the national magazines, they've found it in the homes of their friends, and they know it to be *the* quality linoleum.

From your standpoint, Armstrong's Linoleum can be installed quickly and economically. You needn't worry about finding the right color and design, for there are over a hundred and fifty patterns from which to choose. Finally, behind the finished floor, you have the name of a dependable manufacturer, a name that assures you and your customers years of satisfactory, trouble-free service.

You can get the whole story on Armstrong's Linoleum in "Sweet's"; or write for information direct to Armstrong Cork Company, Floor Division, 1218 State St., Lancaster, Pennsylvania.



● NOTE THE DIFFERENCE between the original kitchen and this shining new room directly above. The floor is Armstrong's Embossed Linoleum No. 5702. Border, cove base, sink, cupboard tops, and sink back splash are Midnight Blue Linoleum. List of furnishings and sketch of the room plan will be sent free on request.

## ARMSTRONG'S FLOORS LINOLEUM

Rubber Tile - Linotile (Oil-Bonded) - Asphalt Tile - Cork Tile - Linowall Wall Covering



# THE NEW 8-inch SKILSAW

IS THE  
**BIGGEST BUY**

**FOR POWER!  
FOR SPEED!  
FOR REAL VALUE!**

MODEL 825  
only  
**\$115**



**CUTTING RAFTERS  
IS A CINCH WITH  
SKILSAW**

## **AUTOMATIC ROOF FRAMER**

● No more calculations with a steel square to determine the angle of rafter cuts, no more markings on the lumber. Just set the base at the point indicated and cut, without mistakes! Easy to use, can be carried anywhere. For all rafter cuts in 2 x 4 or 2 x 6 lumber, for roofs up to full pitch.



The minute you take this newest SKILSAW in your hand you will see why it's the *BIGGEST BUY* in the field! SKILSAW MODEL "825" embodies every new improvement that makes for easier, faster, more economical sawing. Its 8¼-inch blade cuts to a depth of 2½ in.—it bevel-cuts 2½-inch lumber at 45°—it's only 18 in. long and weighs only 18½ lbs. It's easier to handle, more quickly adjustable for every kind of cut and it delivers more cutting performance than you've ever hoped to get at such a price.

Ask your dealer for a demonstration on your own work—on wood, metal, stone, tile or concrete.

**SKILSAW, INC., 5031 Elston Avenue, Chicago**

New York • Boston • Buffalo • Philadelphia • Cleveland • Detroit • Kansas City  
Atlanta • New Orleans • Dallas • Los Angeles • Oakland • Seattle • Toronto, Canada

# SKILSAW **PORTABLE ELECTRIC** TOOLS

★ **FOR THE DEFENSE OF AMERICA** ★



## Lehigh Cement goes to Lehigh University



GRACE HALL, Bethlehem, Pa. • OWNER: Lehigh University, Bethlehem, Pa.

SUPERVISING ARCHITECT: A. Litzenberger, Lehigh University • GENERAL CONTRACTOR: H. E. Stoudt & Son, Allentown, Pa.

Grace Hall is Lehigh University's new recreational center. Solid, handsome, distinguished, it is a testimonial to the importance of student relaxation and—if you'll pardon us—a tribute to the virtues of Lehigh Cements.

For in Grace Hall all three Lehigh Cements were used: Lehigh Early Strength to supplement Lehigh Normal at all the strategic places where quick-curing concrete would speed the work; and Lehigh

Mortar to bind the stones inseparably together.

Because concrete cures 3 to 5 times faster when made with Lehigh Early Strength Cement, notable construction savings in both time and money are almost inevitable in any season. You get denser, better concrete too; and in winter the speed factor is a further safeguard against possible frost damage to the concrete. Ask the Lehigh Service Department for further information.

# Lehigh

**EARLY STRENGTH CEMENT**  
for service-strength concrete in a hurry

LEHIGH PORTLAND CEMENT COMPANY • ALLENTOWN, PA. • CHICAGO, ILL. • SPOKANE, WASH.

# PARKER PROCESSES

are  
"Pinch-Hitting"  
for  
Defense Materials  
in  
Many Industries



In the automotive, electrical, architectural and many other industries, Parker Processes are aiding production executives in making substitution for strategic protective metals.

Priorities are creating finishing problems in all industries, but Parker chemists are in many cases showing a satisfactory way around shortages of zinc, tin, cadmium and chromium. They are providing protective finishing systems for steel windows, hardware,

air conditioning, refrigeration and electrical equipment, that assure finish durability.

Parker Processes assure substantial protection, maintain fine appearance and give old products new sales appeal. They provide rust-proofing and finish durability on peace-time products or defense materials. Specify Parkerizing for protection from rust—Bonderizing for a rust-inhibiting paint base. Send for catalogs describing these processes.

**PARKER RUST PROOF COMPANY • 2157 E. Milwaukee Avenue, Detroit, Michigan**



**Send for Literature:** For 26 years this company has devoted its entire resources to the improvement of rust-proofing methods. Books describing Parker Processes are available to manufacturers and technical men.

**PARKER**  
*Processes* **CONQUER RUST**  
BONDERIZING • PARKERIZING • PARCO LUBRIZING





# Builder's Quiz!

How many of these questions can you answer?

1. In what type of house is condensation of moisture most apt to occur?

2. Is it possible for moisture condensation to take place in an uninsulated wall?

3. What scientific method of construction reduces the condensation problem?

## THESE ARE THE ANSWERS:

1. "Condensation problems are most frequent in houses of modern tight construction, with weather-stripping, storm sash, insulation, and the newer types of heating systems that provide . . . humidification."\*  
Nat. Bureau of Standards BMS 63

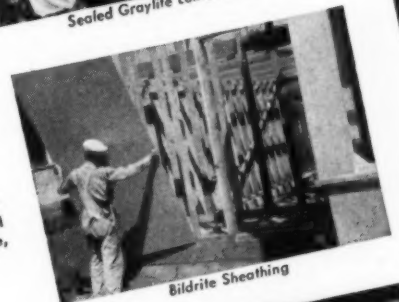
2. "Uninsulated walls accumulate moisture as well as insulated walls."\*  
Iowa State College Research Bulletin No. 271

3. The Insulite Approved Wall of Protection—because Sealed Graylite Lok-Joint Lath, with an asphalt vapor barrier on the stud side, effectively retards vapor travel; and Bildrite Insulating Sheathing outside permits whatever vapor may escape the vapor barrier to pass on to the outside air.\*

\*A transcription of these and other experts' opinions on the condensation problem will be sent you on request. Address Insulite, Department AB-12, Minneapolis, Minn.



Sealed Graylite Lok-Joint Lath



Bildrite Sheathing

# INSULITE



MINNEAPOLIS  
MINNESOTA

Division of Minnesota and Ontario Paper Company  
THE ORIGINAL WOOD FIBRE STRUCTURAL INSULATING BOARD

# Defense Savings Pay-Roll Allotment Plan

*Now company heads can help their country, their employees, and themselves*

voluntary pay-roll allotment plan { helps workers provide for the future  
helps build future buying power  
helps defend America today

This is no charity plea. It is a sound business proposition that vitally concerns the present and future welfare of your company, your employees, and yourself.

During the post-war period of readjustment, you may be faced with the unpleasant necessity of turning employees out into a confused and cheerless world. But you, as an employer, can do something *now* to help shape the destinies of your people. Scores of business heads have adopted the Voluntary Pay-roll Allotment Plan as a simple and easy way for every worker in the land to start a *systematic* and *continuous* Defense Bond savings program.

**Many benefits . . . present and future.** It is more than a sensible step toward reducing the ranks of the post-war needy. It will help spread financial participation in National Defense among all of America's wage earners.

The widespread use of this plan will materially retard inflation. It will "store" part of our pyramiding national income that would otherwise be spent as fast as it's earned, increasing the demand for our diminishing supply of consumer goods.

And don't overlook the immediate benefit . . . money for defense materials, quickly, continuously, *willingly*.

**Let's do it the American way!** America's talent for working out emergency problems, democratically, is being tested today. As always, we will work it out, without pressure or coercion . . . in that old American way; each businessman strengthening his *own* house; not waiting for his neighbor to do it. That custom has, throughout history, enabled America to get things done *of its own free will*.

**In emergencies, America doesn't do things "hit-or-miss."** We would get there *eventually* if we just left it to everybody's whim to buy Defense Bonds when they thought of it. But we're a nation of businessmen who understand that the way to get a thing done is to *systematize* the operation. That is why so many employers are getting back of this Voluntary Savings Plan.

Like most efficient systems, it is amazingly simple. All you have to do is offer your employees the convenience of having a fixed sum allotted, from each pay envelope, to the purchase of Defense Bonds. The employer holds these funds in a separate bank account, and delivers a Bond to the employee each time his allotments accumulate to a sufficient amount.

Each employee who chooses to start this savings plan decides for himself the denomination of the Bonds to be purchased and the amount to be allotted from his wages each pay day.

**How big does a company have to be?** From three employees on up. Size has nothing to do with it. It works equally well in stores, schools, publishing houses, factories, or banks. This whole idea of pay-roll allotment has been evolved by businessmen in cooperation with the Treasury Department. Each organization adopts its own simple, efficient application of the idea in accordance with the needs of its own set-up.

**No chore at all.** The system is so simple that A. T. & T. uses exactly the same easy card system that is being used by hundreds of companies having fewer than 25 employees! It is simple enough to be handled by a check-mark on a card each pay day.

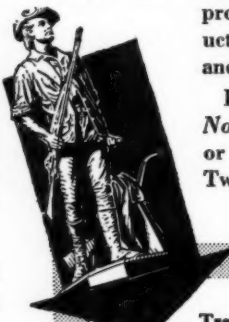
**Plenty of help available.** Although this is *your* plan when you put it into effect, the Treasury Department is ready and willing to give you all kinds of help. Local civilian committees in 48 States are set up to have experienced men work with you just as much as you want them to, and no more.

Truly, about all *you* have to do is to indicate your willingness to get your organization started. We will supply most of the necessary material, and no end of help.

**The first step is to take a closer look.** Sending in the coupon in no way obligates you to install the Plan. It will simply give you a chance to scrutinize the available material and see what other companies are already doing. It will bring you samples of literature explaining the benefits to employees and describing the various denominations of Defense Savings Bonds that can be purchased through the Plan.

Sending the coupon does nothing more than signify that you are anxious to do *something* to help keep your people off relief when defense production sloughs off; *something* to enable *all* wage earners to participate in financing Defense; *something* to provide tomorrow's buying power for your products; *something* to get money *right now* for guns and tanks and planes and ships.

France left it to "hit-or-miss" . . . and *missed*. Now is the time for *you* to act! Mail the coupon or write Treasury Department, Section A, 709 Twelfth St. NW., Washington, D. C.



**FREE - NO OBLIGATION**

Treasury Department, Section A,  
709 Twelfth St. NW., Washington, D. C.

Please send me the free kit of material being used by companies that have installed the Voluntary Defense Savings Pay-Roll Allotment Plan.

Name \_\_\_\_\_

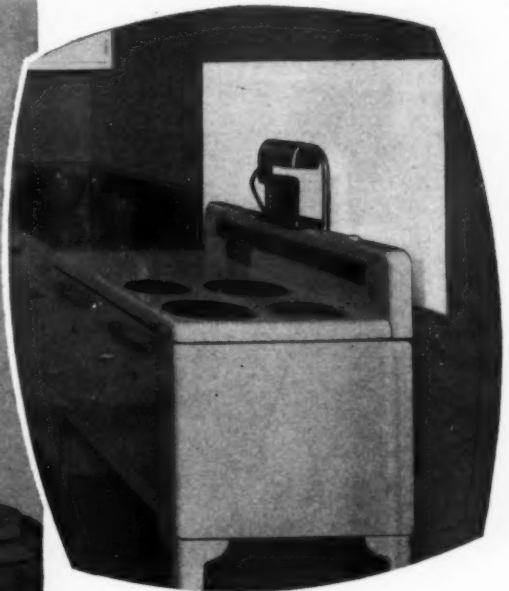
Position \_\_\_\_\_

Company \_\_\_\_\_

Address \_\_\_\_\_

# ANNOUNCING *Ready-built* CARRARA GLASS PANELS

*for bathtub recesses and kitchen stove backings in new homes*



*Quick, easy installation of Carrara Glass assured. Cost greatly reduced by factory pre-fabrication of panels. Carrara now fits budget of even lowest-cost home.*

**N**OW . . . it is possible to give even the lowest-cost new home the beauty and utility of Carrara Structural Glass. For a new method of erection has been developed which greatly simplifies installation of Carrara in bathtub recesses and for kitchen stove

backing . . . and thus greatly reduces costs as well.

Panels of Carrara are securely mounted, in the factory, on plasterboard of the same thickness you're using in the rest of the house. On certain sides, this plasterboard

extends beyond the edge of the Carrara, providing a flange around the glass which can be fastened direct to the wall studding. Necessary holes for pipes, soap dish, etc. are drilled in the glass at the factory, so when the Ready-Built Carrara package arrives on the job, your bathtub wainscot or stove backing can be installed quickly and easily. (See sketches.)

Ready-Built Carrara panels in the bathroom are not only good-looking and smart, but protect a very vulnerable area above the tub. And the grease and grime, which usually disfigure the wall behind a kitchen stove, have no effect on a Ready-Built Carrara backing. They can be wiped off with the sweep of a damp cloth.

Ready-Built Carrara bathtub panels . . . available up to 48 inches above tub (one horizontal joint). Kitchen stove backing . . . 44 by 28 inches. Ready-Built panels come in 8 appealing colors.

**FREE INFORMATION.** Send the coupon . . . for free descriptive literature on Ready-Built Carrara Glass Panels, including installation details.



1. After buttering tub rim and studs with mastic, set the back plate of Carrara first. Nail through plasterboard flange and use clips supplied.
2. Apply end panels similarly, allowing plasterboard to extend beyond tub to next stud. If using 48" wainscot, set second course in same sequence.
3. Clean the glass, and then fill the joints carefully with the pointing compound supplied, in order to assure thorough waterproofing.

**CARRARA**  
*The modern Structural Glass*  
**PITTSBURGH PLATE GLASS COMPANY**

Pittsburgh Plate Glass Company  
2043-A Grant Building, Pittsburgh, Pa.  
Please send me, without obligation, your free literature and installation details on Ready-Built Carrara Glass Panels.

Name.....

Address.....

City..... State.....





# MENGEL Products— a \$20,000,000 Business

**W**HENEVER you specify or buy *any* Mengel Product—Mengel Flush Doors, or Mengel Bord—remember this:

In dozens of logging camps, saw mills, veneer-cutting plants and modern factories all the way from overseas to Louisville, nearly 5,100 skilled Mengel workers during this past year produced Mengel Products to the value of over \$20,000,000. . . . *These Mengel Products MUST be GOOD products* . . . not only because we of The Mengel Company are determined to merit your

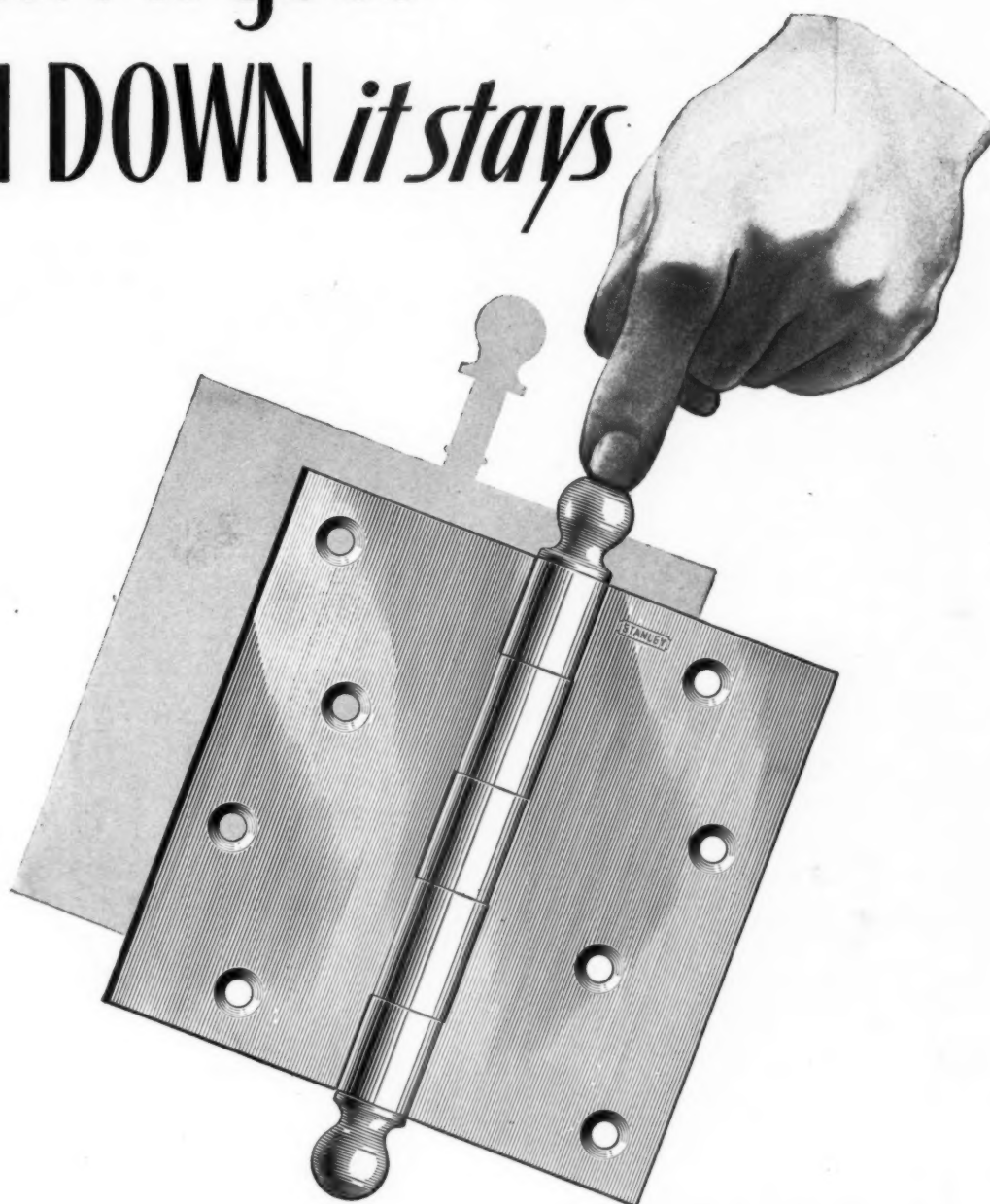
continued purchases, but also because our records show that over 99.75% of our \$20,000,000 output, this past year, easily passed the exacting inspection of our customers.

These, we think, are points that you as a buyer will find important. Order Mengel Products with confidence . . . use Mengel Products with *lasting* satisfaction.

THE MENGEL CO., Incorporated, Louisville, Kentucky

\*\*\* America's Largest Producers of Hardwood Products \*\*\*

# DOWN it goes and DOWN *it stays*



No "juggling" heavy doors while you try to work hard-to-seat pins down. Even top hinge pins are easy to seat when you use Stanley Butts with their new-type non-rising pin. For the pin goes down with a push of the fingers! No wings to line up.

## How It Works

The pin is grooved to hold a split ring. When the pin is pushed down, the split ring automatically *snaps* into a top knuckle pocket. Split ring pressure on the inside of the knuckle above the pocket prevents the pin from rising under action of

the door. It's down for keeps - yet it can be easily removed!

Take advantage of this helpful improvement in butt construction. Ask your dealer for Stanley Butts with the new non-rising pin. The Stanley Works, New Britain, Conn.

## New-type non-Rising Pin in **STANLEY BUTTS**



# STANLEY

TRADE MARK

**HARDWARE FOR CAREFREE DOORS**



**JUST WHAT  
WE WANT!  
YOU GET  
THE JOB**

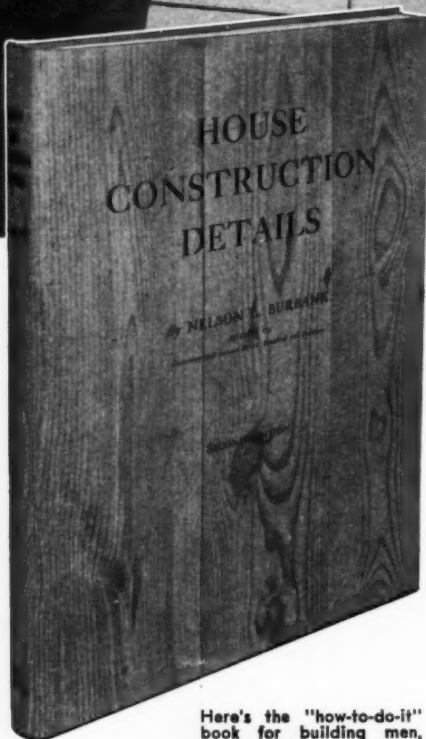
That's what satisfied owners and prospects say to the building man who knows how to alter a floor plan. Success often depends on your ability to suggest alternate materials, or on knowing how to handle some detail that has an owner confused. *The man who knows how* is the man who gets most of the jobs.

You too can be *The man who knows how*. It's easy, because you can read and learn at home or in your spare

time. *House Construction Details*, by Nelson L. Burbank can help you become *The man who knows how*. Here is the "how-to-do-it" book for building men, crammed with ideas, 1,500 illustrations, details and scale drawings, with short, clear explanations.

It's easy to find what you want in *House Construction Details*, because all drawings and details are grouped in construction sequence, beginning at the foundation and carrying through step-by-step to painting and finishing. Look over the table of contents below and see how well the book has been arranged.

There is a gold mine of ideas and practical information in *House Construction Details*—for the beginner who wants to learn or for the veteran who needs workable methods or saleable ideas *right now*.



Here's the "how-to-do-it" book for building men, another in a series of American Builder self-help books.

Send the coupon today for your copy of "House Construction Details." With it you'll receive FREE the 1942 Book Guide—your guide to profitable reading.



### FILL OUT THIS GUARANTEED ORDER FORM

American Builder and Building Age,  
30 Church Street, New York, N.Y.

Enclosed find \$3.00 for which send me a copy of the New Second Edition of *House Construction Details*, and a copy of the American Builder Book Guide FREE. If I do not find the book entirely satisfactory I will return it within 5 days of receipt and you will refund my \$3.00.

Name .....

Address .....

City and State .....  
A.B. 1-42

### Contents of The New Edition

Floor Plans  
Set of House Plans  
Excavations  
Foundation Forms  
Foundations  
Outside Walls  
Inside Walls  
Wall Sheathing  
Ceiling Joists  
Roof Construction  
Bay Construction  
Roofing  
Cornices and Porches  
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Shelves  
Built-in Equipment

Finished Flooring  
Chimneys and Fireplaces  
Scaffolds  
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Cottages  
Farm Buildings  
Wood Connectors  
Pre-fabrication  
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Painting and Finishing  
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# A BETTER VALUE



## *The Crane Equipped Home!*



● This charming kitchen features the Crane All-American Sink designed for installation in a linoleum or tile counter top.

● The Palmer Group shown here consists of the Crane Coronova Bath, recessed, the Neuday Lavatory on legs and the Hanover Closet.



**F**ORESIGHTED builders who have for years installed Crane Plumbing and Heating in the homes they built have found it a definite aid in their business. Not only has this quality equipment helped in the sale of these houses, but the long life—the lasting satisfaction that the name Crane assures—has meant added value to remodeled properties—a quicker, easier sale.

Today building is facing restrictions, both as to type of home and location, and the Crane line has

been designed and priced to fit these new conditions. No matter whether present emergency conditions continue or whether normal conditions return quickly, the Crane line of Plumbing and Heating will always offer American builders the utmost in quality and the utmost in satisfaction as well.

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# AMERICAN BUILDER

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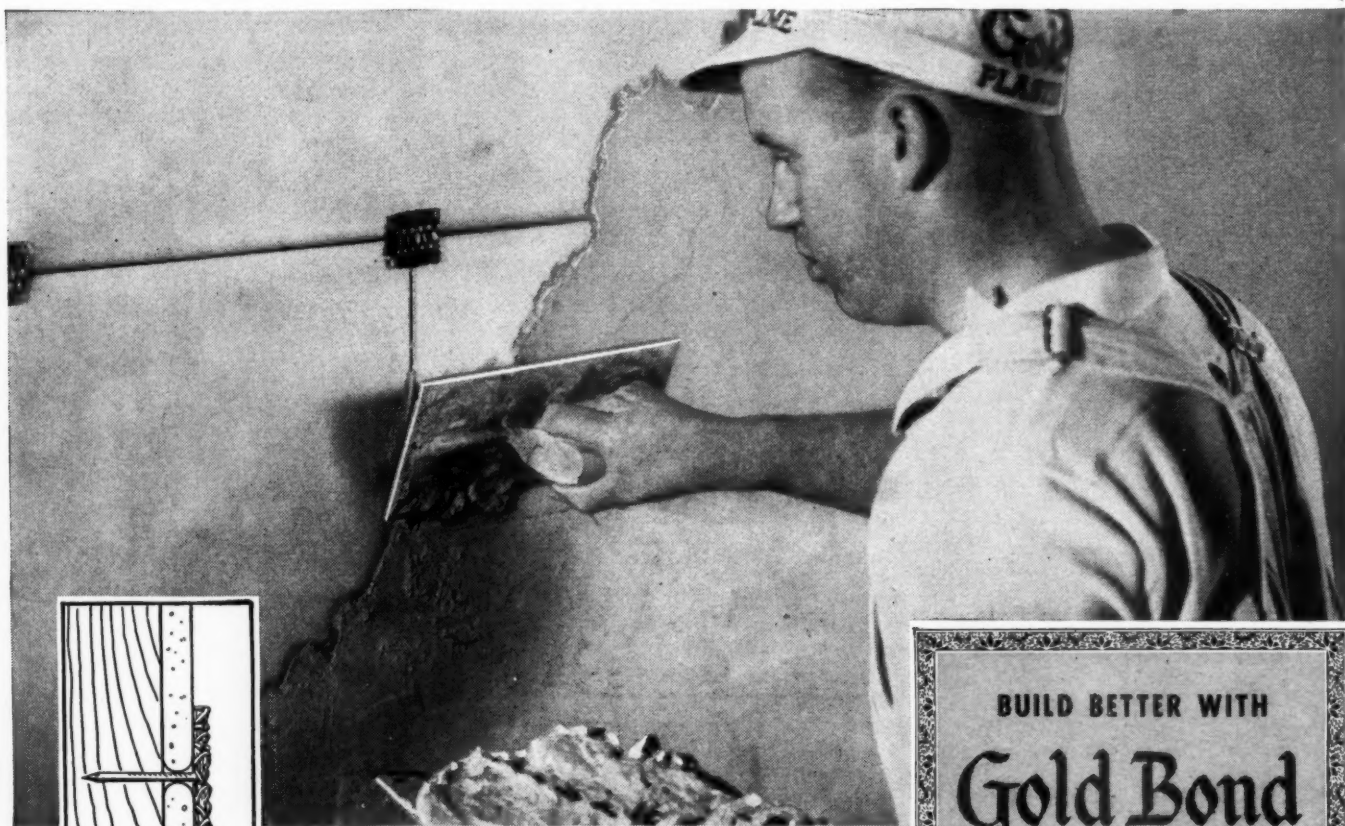
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# PUBLISHER'S PAGE

## Government Non-War Spending Versus Homes for the People

**W**HEN this nation entered 1917 it was three months from war. Twenty-five years later, as it enters 1942, it actually is at war. The difference between what occurred before we entered the two World Wars, and between what occurred during World War I and is occurring now during World War II, cannot be too strongly emphasized, if we are going *efficiently* to adjust ourselves to war conditions.

We participated nineteen months in World War I without having made any previous preparation for it. We have now been *arming nineteen months* for World War II. In 1916, the last year before we entered World War I, our federal government spent 730 million dollars, and our federal, state and local governments combined 3 billion. In the year ended June 30, 1940, *before we began preparing for this war*, our federal government spent 9½ billion dollars and our federal, state, local governments combined 19 billion.

In 1918, during ten months of which we were fighting, our federal government spent less than 13 billion—of which about 12 billion was for war—and our federal, state and local governments spent 15 billion. In 1941, throughout which we were arming, our federal government spent 25 billion—about 16 billion for defense—and our federal, state and local governments spent 35 billion. That is, *they have continued spending for non-war purposes as much as before we began spending for war.*

**B**EFORE we entered World War I in 1917 our railways had a large freight car shortage which continued throughout the war, and were able to increase freight movement only 12 per cent in 1918 over 1916. When we began spending for this war we had a large surplus of transportation; and, with expenditures for defense in 1941 greater than for war in 1918, the freight movement by railway alone last year increased 16 per cent over 1918, 41 per cent over 1939 and 26 per cent over 1940 *without any shortage of cars.*

Many painful adjustments to war conditions will yet have to be made; but the facts stated show that a large part of the adjustments made *after* we entered the last war had been made *before* we entered this one; and this time we should make our nation's power felt much more quickly. But we *cannot keep private business healthy enough* to exert our full potential economic strength if we allow our federal, state and local governments to continue *non-war expenditures six times as large—16 billion dollars a year larger—as during the last war.*

It was principally transportation which during the nineteen months we were in the last war restricted all production, including building. This time, during nineteen months of greater production for war than in 1917-1918, transportation has not restricted anything; and, consequently, it was possible to do *five times* as much home building in 1941 as in 1918.

**W**HY, then, all the talk about drastically reducing all housing construction excepting that "essential for defense?" A reduction of *one-fifth* in present federal, state and local government non-war expenditures would save the people as much as would be required to carry out in 1942 as big a housing construction program as was carried out in 1941. Why not much more talk and *action* to reduce federal, state and local government *non-war, non-essential expenditures that are six times as large as in 1918?*

The glib answer is shortage of "critical materials." But every dollar spent by any government consumes one dollar's worth of labor and MATERIALS. Must the people be deprived of homes they *need* in order that our government may be supplied during this war with "critical materials" for *six times* as much spending for *non-war, non-essential and political purposes* as during the last war?

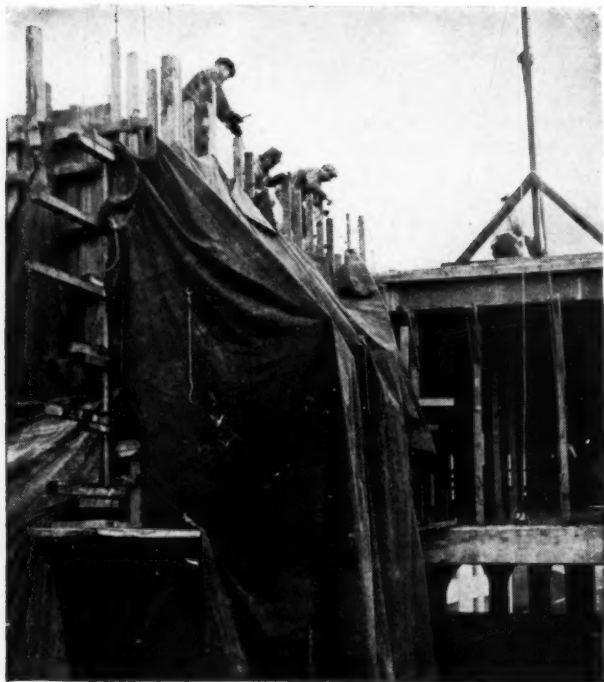
*Samuel O. Dunn,*

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# AMERICAN BUILDER

AND BUILDING AGE

## What of the Building Outlook Now That America Is at War?

**W**HEN American territory was treacherously invaded, American property destroyed and American lives lost on Sunday morning, December 7, the men of the building industry awoke to find themselves facing new conditions—the stark necessities of all-out war.

Home building for defense workers, farm construction for increased food production and numerous types of factory and commercial improvements for the expanding armament program had been classified as highly essential and desirable for our “defense” period; and building men had felt considerable pride and security in their position in serving the people and the nation with these urgently needed construction projects.

Shelter—and the building industry to produce it—was recognized as important in peace time and in the period of defense preparation. Would it rate also as *essential in time of war?*

### Building Service Is War Service

This publication maintains that builders can make a valuable contribution to the nation's war and victory program, not only by erecting the industry housing, army camps and munition plants called for by our vastly expanded military plans, but also by continuing to produce taxable wealth, by furnishing needed employment for local labor, and by strengthening the nation's economic fabric and morale—at the same time using its well known ingenuity and resourcefulness to carry on with a minimum use of “critical list” materials.

This publication maintains that this is no time to *demobilize the building industry!* It confidently expects the nation's leaders in Washington, in their planning for war and victory, to hold to this same idea.

So, with these considerations in mind, what is the outlook for the building industry in 1942? Many facts and figures are assembled in this magazine that will throw light on this question, and will chart out certain trends for the new year.

One hesitates to predict too dogmatically in these unpredictable times, but after checking with all available government and private sources and in the light of the latest war development, *American Builder* believes that a 1942 home building volume of 500,000 units (375,000

privately and 125,000 publicly financed) is indicated.

How does this compare with the current year? Herman B. Byer, Bureau of Labor Statistics, estimates that 650,000 housing units, other than farm, is the 1941 new home total. Of these, about 100,000 were publicly financed—a figure short of expectations. Private builders with 85 per cent of the total (550,000 units) to their credit, did the best job of providing low cost homes where most needed that has ever been done in our history. Sixty-four per cent of the total, or 394,600 dwelling units, were built in defense areas in 1941.

### Plenty of Building Materials, Labor and Transportation

What about critical materials now, or threatened to be, denied? The actual tonnage of steel, copper, zinc, lead, etc., absolutely necessary for 500,000 low-cost dwellings, is too small a percentage of the annual production to permit a thinking and intelligently planning government to deny them to manufacturers making the products requiring them. Without those products, the housing program ultimately collapses; and without the necessary housing war production cannot realize the required efficiency and volume. Housing remains one of the three cardinal needs of human existence. Good housing has always been a requisite for human efficiency.

Local building labor is in plentiful supply in most communities; it should be kept productively busy.

In this war there is no shortage of freight cars, no bottleneck in transportation, as there was in 1915-1918 to restrict building supply service.

There may be some weeks of uncertainty, false starts, conflicting instructions, and governmental edicts; but now that this country is actually *at war*, it is certain that intelligent planning, allocation and production—a thinking approach to all the ramifications of a war economy—will soon mark our national effort.

The same considerations which previously made it sound public policy to utilize the services of the building industry still continue in force; war has not changed them; it is still *patriotic to build* and to maintain every private enterprise which might contribute to, or is not in competition with, the nation's war effort.

# WAR and the Building Outlook for 1942

**Vast war expansion increases need for home building in defense areas. Predict 500,000 U. S. homes in 1942. Also high volume of repairs for defense. Military construction, cantonments, defense plants to take spotlight**

**T**HE vast war effort in which the United States is now engaged will drastically change the course of construction activity in 1942, but it by no means will cause a blackout of this industry. A 12 billion dollar construction program is in prospect.

SPAB'S announcement of a \$150 billion expenditure—a "victory budget," including the \$70 billion already appropriated or authorized for military and lease-lend purposes, can mean only one thing—a vast increase in the nation's industrial plant.

Thus in 1942 the building industry will be called upon to produce a huge volume of industrial construction, and the vast number of related structures, such as service buildings, garages, warehouses, shops and minor commercial building.

This vast expansion in industrial production, plus extra shifts, means additional population moving to already crowded industrial and defense areas and a consequent further increase in the need for housing. To provide this

needed housing in defense areas will tax the capacity of both private and public builders.

Piled upon all of this will undoubtedly come a vast cantonment program for a hugely expanded Army. New army camps in practically every state are expected.

Farm construction at increased volume will undoubtedly accompany the expansion in farm production and income.

Modernization, maintenance and "repairs for defense" will be required at high levels.

## Realism Called For

Building men may as well be realistic in appraising the outlook for 1942. Defense housing and the defense areas will get first call on all critical metals and materials.

In nondefense areas the ingenuity and resourcefulness of building men will be called into play to devise ways of carrying on necessary construction with a minimum use of critical items. There is also the remote possibility that defense officials may, if war conditions demand it, actually prohibit all construction in nondefense areas not necessary to defense or to the vital health and safety of the public.

Despite war uncertainties, some realistic estimates of the probable course of construction are possible. It should be pointed out that even at the height of the last war, at least several hundred thousand houses were built, and that a considerable volume of residential construction, as well as repairs and maintenance must be carried on in all parts of the country in order to maintain the health, welfare and safety of the general public.

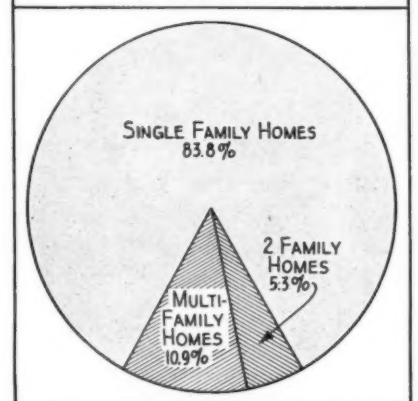
Residential building was approaching near boom pro-

**TABLE II—615,000 New Dwelling Units Built in 1941—  
14 Per Cent Increase Over 1940**

*Estimates by Construction Division, U. S. Bureau of Labor Statistics, Based on  
Building Permits in More than 2,800 places (1941 Preliminary)*

Population Group	Number of Places	Population 1940 Census	Number of New Dwelling Units		Percent Change
			1941	1940	
1. 500,000 and over.....	14	22,367,825	106,000	100,000	+ .06
2. 100,000 to 500,000.....	78	15,620,164	92,300	87,400	+ 5.8
3. 50,000 to 100,000.....	107	7,343,917	42,400	41,100	+ .03
4. 25,000 to 50,000.....	213	7,417,093	50,000	45,800	+ 9.
5. 10,000 to 25,000.....	665	9,966,898	70,200	58,100	+21.
6. 5,000 to 10,000.....	965	6,681,894	44,000	38,600	+14.
7. 2,500 to 5,000.....	1,422	5,025,911	32,200	26,500	+22.
<b>Total URBAN.....</b>	<b>3,464</b>	<b>74,423,702</b>	<b>437,100</b>	<b>397,500</b>	<b>+10.</b>
8. Incorporated places of less than 2,500 population..	13,288	9,343,910	177,900	142,500	+25.
9. Rural population not on farms or in incorporated places .....	...	17,750,587			
<b>Total NONFARM.....</b>	<b>...</b>	<b>101,518,199</b>	<b>615,000</b>	<b>540,000</b>	<b>+14.</b>
10. Farm population .....		30,151,076			
<b>TOTAL U. S.....</b>		<b>131,669,275</b>			

**SINGLE FAMILY HOMES MAKE UP  
83.8 % OF U.S. TOTAL**  
American Builder Chart



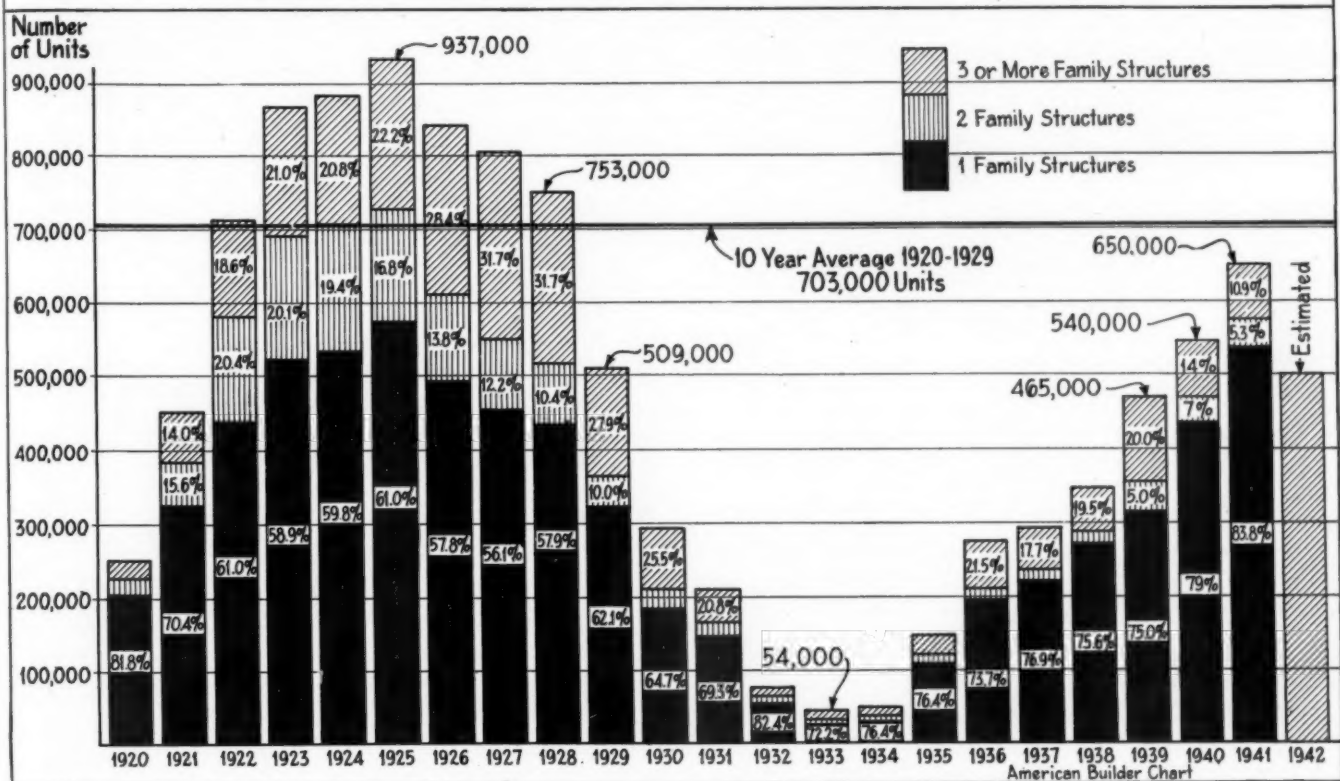
**NO. I—**Percentage of apartment buildings continued to decline in 1941, and amounted to only 10.9 per cent of the total. Above chart is based on U. S. Bureau of Labor Statistics reports.

**NO. II—**Home building in 1941 approached boom proportions with a total of 615,000 dwelling units. Largest increase (25%) was in rural non-farm (Items 8 and 9) and in towns of 2,500 to 5,000 and 10,000 to 25,000.

Figures are preliminary, subject to later revision.

## 1941 HOME BUILDING WAS UNDER 10-YEAR AVERAGE, 1920-1929

Number of U.S. dwelling units (except farms) built annually, by types, since 1920



NO. III—Home building volume in the U. S. in 1941, while well above 1929, did not equal 1928 and was 88,000 units under the ten-year average, 1920-29. However, single-family home construction was the highest since 1925. Data from U. S. Bureau of Labor Statistics covers all U. S. home buildings, public and private, except farms.

portions in the latter part of 1941. The reliable and well proven estimates of Herman B. Byer, chief of the Construction Division of the Bureau of Labor Statistics, indicate that 615,000 housing units, other than on farms, were provided as a whole in 1941. Of these, approximately 96,000 were financed with public funds. The public housing program fell short of expectations, while private builders, who produced 84.4 per cent, or 519,000 units, did the best job of providing low-cost homes where most needed that has ever been done in this country.

Careful estimates show that 63 per cent of the 519,000 homes privately built in 1941 were erected in defense areas that have been approved for priority assistance. A population of 61,500,000 is represented by the defense areas already approved, and it is possible that additional areas will be added as new housing shortages develop. As we have seen, expansion of population in these defense areas will continue to create a housing demand, and it is possible that home building in these areas will be maintained at 1941 levels, although confined to \$6,000 price.

TABLE IV—CONSTRUCTION EXPENDITURES IN THE UNITED STATES  
1941 AND ESTIMATE FOR 1942  
(millions of dollars)

	1941	1942
Private Construction (total).....	\$ 5,450	\$ 3,800
Residential (nonfarm).....	2,600	1,800
Nonresidential (includes privately financed industrial facilities).....	1,450	800
Farm .....	500	600
Public utility.....	900	600
Public Construction (total).....	\$ 5,000	\$ 5,800
Residential (includes defense).....	500	700
Nonresidential (excludes industrial facilities).....	300	200
Industrial facilities.....	1,000	1,800
Military and Naval (does not include industrial facilities or defense housing).....	1,500	2,000
Highway .....	900	600
Other Public.....	800	500
TOTAL NEW CONSTRUCTION.....	\$10,450	\$ 9,600
Modernization, Maintenance, Repairs.....	3,000	2,400
TOTAL ALL CONSTRUCTION.....	\$13,450	\$12,000

NO. IV—Vast military and war plant construction next year may swell the volume of total U. S. construction activity to \$12 billions, according to preliminary estimates. Declines in civilian residential building will be more than offset by new cantonments and war work. Estimates for 1941 are by Bureau of Labor Statistics.



### Expect 500,000 Units in 1942

Checking with all available government and private sources in the light of latest war developments, *American Builder* estimates that the 1942 volume will approach 500,000 units—an 18.7 per cent decrease from 1941's 615,000. The total will be divided as follows:

Privately built and owned houses.....	375,000
Publicly financed housing.....	125,000
Total for 1942.....	500,000

The volume of public housing to be built will be dependent first on the amount of money Congress will appropriate under the Lanham Act for this purpose, and second on the speed with which public housing agencies can be organized or reorganized to get into action. Housing Co-ordinator Palmer wrote Congressman Lanham on December 2, stating that 150,000 publicly built houses are now required, of which 75,000 are urgently needed. Driven by war developments, Congress will shortly pass a bill providing \$300 million start for this purpose.

The war with Japan, Italy and Germany will give increased impetus to the demand for speedy provision of housing for defense workers, and undoubtedly public housing will play an important role. On the basis of past experience, however, it would seem that even though the various government housing bureaus get the money they need, it will be improbable that they will build more than 125,000 to 150,000 units in 1942.

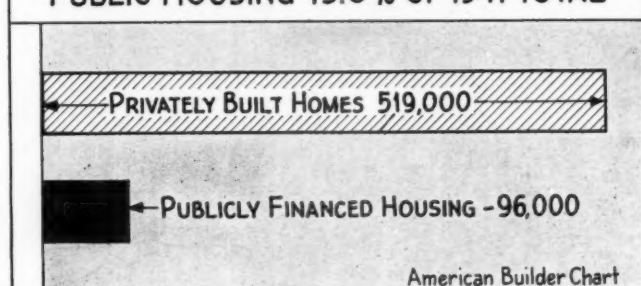
Private residential builders have showed that they can deliver a vast volume of needed housing in defense areas and at prices defense workers can pay. With the war situation as serious as it is, however, it is not likely that private builders will be able to operate in as free

and easy a way as formerly. While the number of defense areas covers a large part of the population, it is probable that priority assistance in obtaining materials will be more and more concentrated in centers where an acute shortage exists. Thus, building will be spotty, with builders in some sections working at top speed and in others practically out of business. Total private home building volume for the country as a whole will decline sharply, possibly to 375,000 or 400,000 units.

The important part private builders are playing in defense construction was shown in a recent FHA survey reported December 13, which showed that 300,000 new small homes have been erected by private builders under the FHA program since the start of defense activity in the summer of 1940.

Prices have ranged from \$2,800 to \$5,500, depending

### PUBLIC HOUSING 15.6% OF 1941 TOTAL

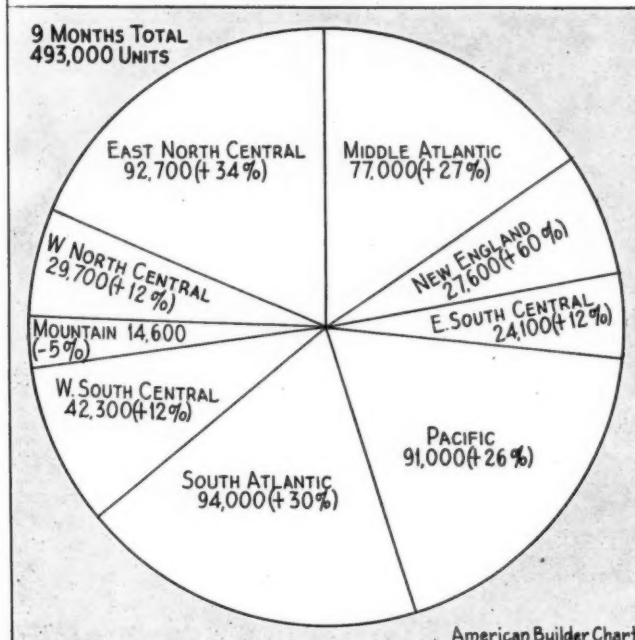


American Builder Chart

NO. VI—Private builders provided 84.4 per cent of the houses built in 1941. It is estimated that 64 per cent of the 550,000 privately built units were in defense areas.

### WHERE HOME BUILDING IS MOST ACTIVE

NUMBER OF FAMILY UNITS (1<sup>st</sup> 9 MONTHS OF 1941) AND PER CENT INCREASE OVER 1940

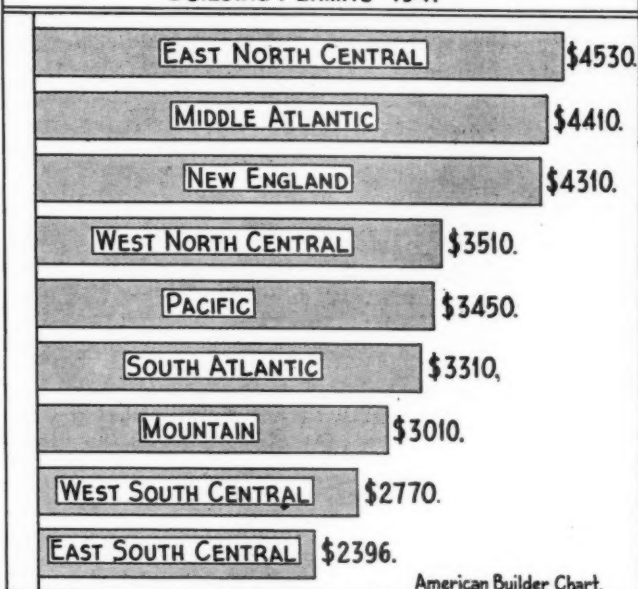


American Builder Chart

NO. V—War activity has caused movements of population to defense areas and swelled home building activity in many regions. Above chart is based on Bureau of Labor Statistics reports in first nine months of 1941 covering 493,000 dwelling units.

### HOW HOME COSTS VARY WITH REGIONS

ALMOST 100% DIFFERENCE IN AVERAGE COST OF SINGLE FAMILY HOUSE SHOWN IN ANALYSIS OF 412,500 BUILDING PERMITS - 1941



American Builder Chart

NO. VII—Climate plays important part in construction costs, this chart shows, based on analysis of 412,500 single-family homes built the first nine months of 1941, as reported to the Bureau of Labor Statistics. The almost 100 per cent range from East South Central to East North Central shows fallacy of SPAB's \$6,000 overall ceiling. Figures represent permit values only and do not include land, overhead or financing costs. Add 40 per cent to obtain average total sales price.

on size, location and regional construction needs, and the total monthly carrying charges from \$25 to \$43. The survey shows that in Hartford, Conn., monthly payments ranged between \$27 and \$32; in Philadelphia, \$30 to \$40; Baltimore, \$25 to \$37; Detroit, \$30 to \$43 and Los Angeles, \$30 to \$32.50. These price ranges are well within the means of defense workers.

FHA and defense housing officials are urging private builders to undertake more rental housing, and a considerable increase in this type of activity is to be expected in 1942.

As we have said, critical defense areas are widely scattered throughout the nation—some indication of where the greatest home building activity may be expected next year is given in Charts II and V. Note that in 1941 the greatest residential increase took place in the rural non-farm areas, 25 per cent. Small towns of 2,500 to 5,000 were next with a 22 per cent increase. Big city home building just barely held its own with an increase of .06 per cent.

As to regions (see Chart V) the greatest increases are taking place in New England (60%), East North Central area (34%) and Pacific (26%).

The rural nonfarm areas (items 8 and 9 in Chart II), while they include a considerable number of communities adjacent to and affected by metropolitan centers, are predominantly rural, and building of all kinds in these areas should be less affected by priorities and material shortages than elsewhere. Rural homes of the kind built along highways and in the open country (but not farm-houses) have represented a constantly growing volume of the nation's business in recent years and reached a total of 177,900 in 1941. They require less critical materials than the more elaborately equipped city dwellings.

Furthermore, the dealers and suppliers in rural areas serving the builders of these houses are more likely to make the critical materials they have, or are able to get, last longer. There is no doubt but that the many thousands of widely scattered rural and small town dealers of the country possess large inventories which will permit exten-

## Washington Boosts by \$1,000,000,000 Its War Construction Estimate for 1942

In a news release dated Dec. 20, the Office of Production Management makes the following revised estimate of war construction, including housing, for the next 12 months:

"New requirements brought suddenly into focus by the outbreak of war have caused OPM officials to increase by nearly one billion dollars their estimates of the amount of money to be needed for all kinds of construction in this country during 1942.

"Preliminary estimates under the old defense program set the 1942 construction total at about \$10,400,000,000—a slight decrease from the \$11,000,000,000 expected to be spent during 1941. The new estimate made today is for approximately \$11,250,000,000, an all-time high, of which all will be for defense construction or construction essential to health and safety.

"There will be large increases next year over this year in direct military construction and government-financed defense plant expansion, defense housing and community facilities. In every other major category there will be decreases of varying degrees, according to the revised estimates.

"Now in its eighteenth month, the defense construction program, measured in terms of funds available, amounts to nearly \$11,000,000,000. During next year the amount expected to be used for defense construction alone will be approximately \$8,650,000,000.

"The value of defense work in place today is \$4,900,000,000, or about 44 per cent of the \$11,000,000,000 in defense funds already made available. Monthly expenditures now average about \$500,000,000 and for the first time are approximating the rate at which funds are becoming available."

sive home building and modernizing without priority help.

The manner in which private builders have applied for priority assistance to build homes in defense areas is an indication of the probable volume to be expected next year. As of November 30, private builders had applied to FHA offices for priority assistance on 137,000 houses. Of this number, FHA had processed and passed on to Housing Co-ordinator Palmer's office 127,000. Palmer's office at this date had approved 100,000 units, and of this number OPM had approved 77,871. OPM said it had issued 5,270 preference rating orders covering the 77,871 homes, or an average of 14.8 houses per builder. Considering the confusion and difficulties attendant upon a new procedure of this type, the fact that priority applications on this number of houses had been approved by OPM by November 30 was a reasonably good record.

As was to have been expected, the first priority applications received by FHA were from the bigger builders

TABLE VIII—DEFENSE HOUSING FINANCED BY PUBLIC FUNDS: SUMMARY AS OF NOVEMBER 22, 1941

	Allocated	Under Construction Contract	Completed
Number of states and territories.....	51	47	42
Number of localities.....	195	175	116
Number of projects.....	486	392	202
Number of family dwelling units (Regul.).....	125,299	105,527	53,796
Civilian industrial workers in private defense industry.....	61,859	49,052	18,501
Civilian industrial workers in Gov't. plants.....	20,846	18,210	6,479
Enlisted and Civilian personnel of the Army and Navy.....	42,594	38,265	28,816
Number of family dwelling units (Trailers and Portable Houses).....	7,595	6,084	1,851
Civilian industrial workers in private defense industry.....	5,174	5,069	1,851
Civilian industrial workers in Gov't. plants.....	2,421	1,015	—
Number of units for single persons.....	10,851	9,090	6,353

NO. VIII—THE STATUS of publicly financed defense housing near end of 1941 is here shown. Funds were allocated for more than 125,000 units, of which 53,796 were completed. Trailers and portable houses totaled 7,595.



and were averaging 100 houses at a time. By the middle of November, however, the number of applications from large builders had dwindled rapidly and the average was down to ten houses each. This confirms what most building observers know, namely, that while large operations are important in home building, the big national totals *in volume* are made up of thousands of smaller firms building from two to 25 houses each.

### How Home Costs Vary

One of the striking facts brought out in the 1940 residential figures is the wide variation in cost in building houses in various parts of the country. Chart VII clearly shows this wide variation in average cost in nine different regions, based on an analysis of 412,500 single family homes for which building permits were taken out in the first nine months of 1941. The figures shown in Chart V represent permit valuations, and to arrive at total sales cost including land, overhead, and other costs, a rule-of-thumb procedure would be to add 40 per cent. However, taking the average permit values for each region the cost of the average house ranges all the way from \$2,396 in the East South Central area to \$4,530 in the East North Central region.

These figures clearly put the spotlight on the fallacy of the SPAB's blanket \$6,000 price limit. The 415,000 single-family homes analyzed include both public and private. The figures clearly show that SPAB's \$6,000 limitation penalizes the northern builder and would-be home owner severely for no justifiable reason.

### Modernization Prospects Good

All indications are that modernization, home improvements, maintenance and repairs will play an important part in the building picture for 1942. This type of business may be the saving factor for many dealers and builders in some regions. A large part of this type of work can go ahead without priority assistance because the use of critical materials is small. OPM is planning to set up a streamlined method of priority aid for modernizing and repairs, which may further aid this type of work.

While estimates in this field are difficult and are frequently, as one government economist put it, "taken off the ceiling," there is some statistical basis for the belief that the total volume of this type of work, including industrial maintenance and painting and decorating, has been close to \$3 billions in 1940 and '41. It is reasonable to expect that a considerable amount of this work will be necessary in 1942, and a rough estimate would place the expected value at \$2¼ billions.

There are a number of reasons for belief that modernizing and repairs will continue at a reasonably high rate next year. Home owners will have money to spend and will not be able to get the cars, radios, refrigerators and other mechanical equipment they may want. They will probably be inclined to put some of their increased earnings into improvements on their homes. The same is true for industrial repairs and maintenance which can be done without the use of critical materials.

### Commercial Building to Decline

The most serious dislocation in the building industry expected next year is in the commercial, educational and miscellaneous nonresidential structures. Sharp reductions in the volume of office and loft buildings, banks, stores

Classification.....	1940 Acct.	1941 Estimate		1942 Estimate	
	Millions of Dollars	Millions of Dollars	% Change From '40	Millions of Dollars	% Change From 1941 Est.
Commercial Buildings.....	318	490	+ 54	330	-33
Manufacturing Buildings.....	442	1,175	+166	1,175	0
Educational Buildings.....	147	145	- 1	90	-38
Hospital & Institutional.....	94	100	+ 6	75	-25
Public Buildings.....	80	85	+ 6	15	-82
Religious Buildings.....	46	55	+ 20	15	-73
Social & Recreational.....	63	80	+ 27	50	-37
Misc. Nonresidential.....	104	250	+140	110	-56

and other nonresidential construction seem unavoidable.

However, there are some classes of nonresidential construction, namely, garages, warehouses, service stations, hangars and other service-type structures that may not be so seriously affected, since they will be required as a natural accompaniment to military and industrial defense work.

The Statistical and Research Division of the F. W. Dodge Corporation gives the following estimates of nonresidential construction for areas covered by Dodge reports:

### Over-All Total May Touch \$12 Billions

We have seen that, barring all-out prohibition of non-defense work, residential construction totaling 500,000 units may be expected in 1942. The dollar volume represented by these homes would be approximately \$2,500,000,000. Modernization, maintenance and repairs will add another \$2.4 billions. Farm construction (including farm homes and maintenance), which in 1941 is estimated to have totaled \$525,000,000, will account for \$600,000,000.

Added to the above, and far outshadowing it in importance from the war angle, will be a vast volume of industrial, military and naval defense construction, which may be estimated at between \$4 billions and \$6 billions. Taking a conservative estimate, as shown in Table IV, the total volume of construction of all types in the United States in 1942 should touch \$12 billions—certainly a volume of activity that will keep the greater part of the men of the industry extremely busy.

\* \* \*

### Total Construction Volume for November 1941 Reaches Almost \$460,000,000; Up 20% Over November '40

THE latest available statistics at press time, as issued by F. W. Dodge Corporation, covering 37 states east of the Rockies, are for the period November 1-30, 1941, and therefore do not show any war reaction—these total \$458,620,000 for all construction. This compared with \$380,347,000 for November, 1940, and \$606,349,000 for October, 1941, and \$456,189,000 for December, 1940.

Residential building for the month of November amounted to \$116,468,000, as compared with \$152,838,000 for the same month the year before. This was the first time the monthly figures for '41 did not exceed corresponding months in 1940, reflecting priorities and defense restrictions taking effect.

Statistics for the four classes of construction are as follows:

	37 Eastern States November, '41	November, '40	October, '41
Residential .....	\$116,468,000	\$152,838,000	\$171,772,000
Non-Residential.....	192,936,000	148,367,000	269,553,000
Public Works.....	88,436,000	51,430,000	94,563,000
Utilities .....	60,780,000	27,712,000	70,461,000
Total .....	\$458,620,000	\$380,347,000	\$606,349,000



# Trends in Home Building Practice

## How Builders Are Adapting Their Output To Present-Day Market Needs

**T**HE PRESENT era in home building is definitely "mass market." It is attuned to the average family income and designed in accord with average family requirements and tastes. The great majority of the homes built during 1941, amounting to over 600,000 units, were in the class of \$3,000 to \$6,000; and there is every reason to believe that the home building of 1942 will follow much the same pattern.

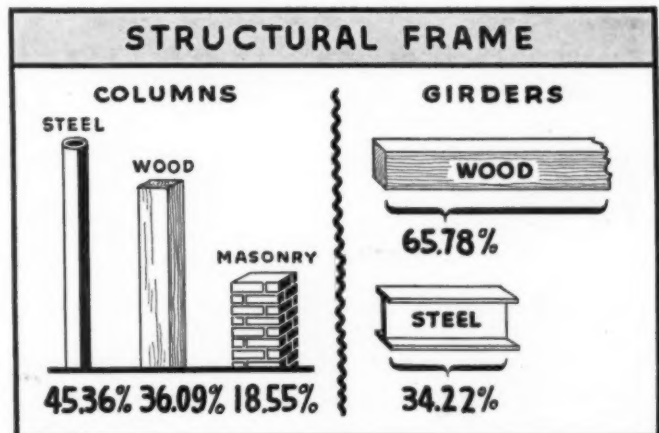
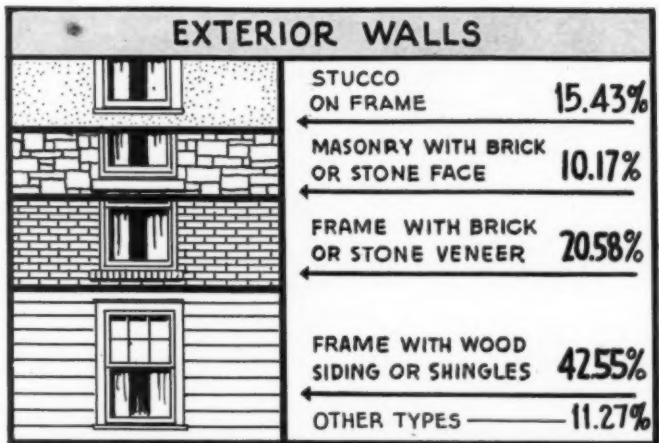
When OPM put a limit of \$6,000 on defense area homes that it would assist with "priorities" on critical list materials, it was keeping well within the existing popular limits; in fact, it just about hit the bull's eye so far as the popular mass market home is concerned.

Costs vary to a great extent across the country, depending on building labor rates, local code requirements and amount of heating equipment needed; and the protest of the builders against the OPM \$6,000 price ceiling has been that it failed to recognize these differences, not that the price—except for a few high costs areas—was not properly placed to cover the bulk of the present market demand.

The small to medium size, five-room, one-story house, with one bathroom and warm air heating plant has dominated the field in 1941 and will doubtless continue to be the favorite for some years to come. Careful consideration of the characteristics of these popular, present-day homes will be worth while, both to designers and builders for their current planning, and also for the manufacturers and distributors of building materials and equipment to guide them in their sales promotion.

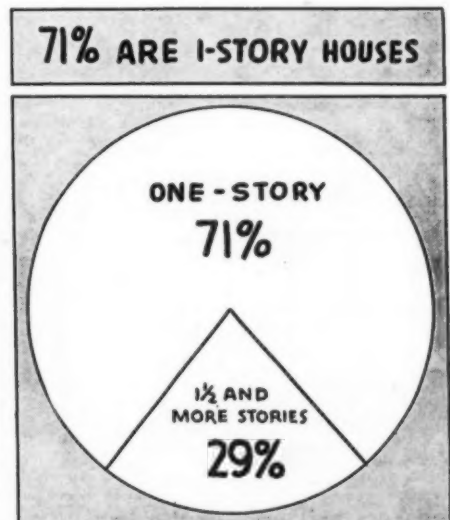
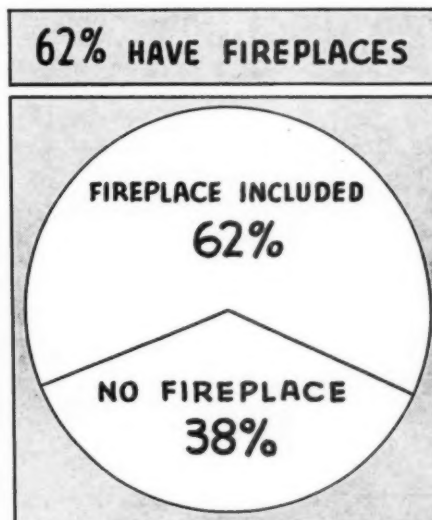
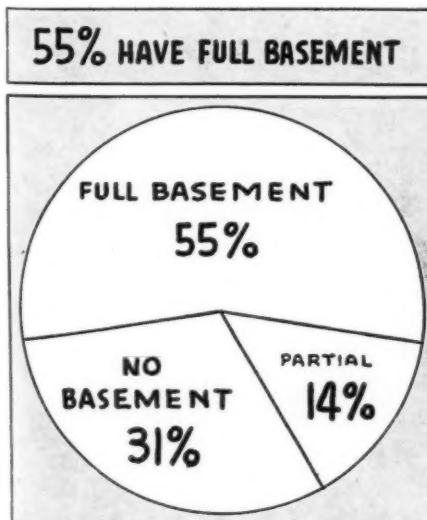
One of the most valuable statistical studies of the past year was an analysis of single-family homes insured financially by the Federal Housing Administration. This study, made by FHA's Technical Division and its Division of Research and Statistics, covered 12,144 FHA-insured houses built in 1940 and scientifically selected to give a well-balanced picture of activity in FHA's 43 insuring offices scattered throughout the United States.

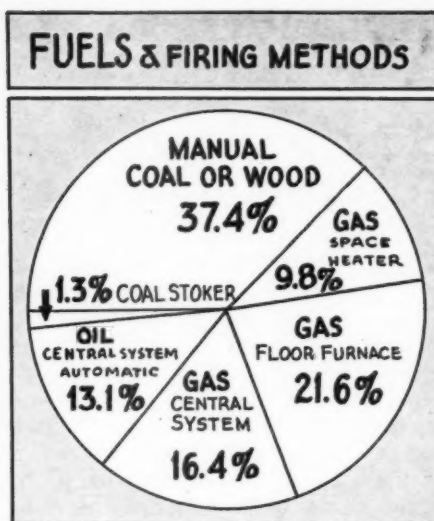
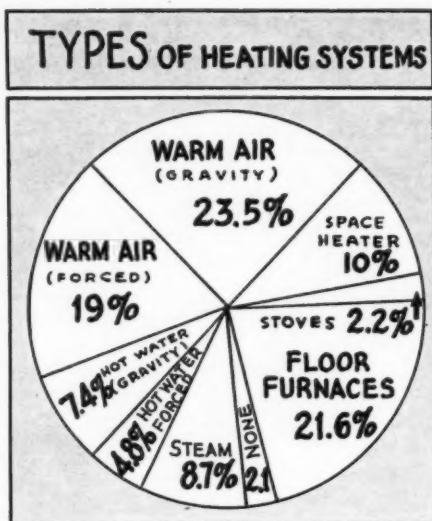
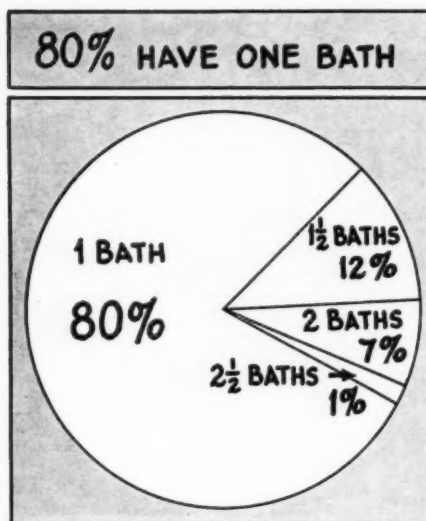
The 12,144 homes analyzed represent probably one of the largest "samples" on which complete data has been gathered. Houses were picked from all regions to pre-



sent a well-balanced national picture. Primary purpose of the survey was to show the volume of critical metals and materials used, and this part of the survey was published in the October 1941 *American Builder*.

As reported in this article, the average FHA-insured house required only 2¼ tons of steel, 184 pounds of copper, 88 pounds of lead, 2.7 pounds of tin and 94.5 pounds of zinc. This was for a typical house as built in 1940,





and it has been pointed out that all of these items can and will be greatly reduced in defense homes to be built during the war.

It is the purpose of this article to present additional data on design characteristics, equipment and construction materials. A number of the important conclusions are shown in the charts and pictographs herewith.

An important part of the study concerned floor areas. The analysis showed that the average floor area for all one-story dwellings studied was 1,009 square feet—936 square feet for one-story dwellings in Northern cities and 1,144 square feet for similar dwellings in Southern cities.

For one-and-one-half story dwellings, the average floor area was 1,390 square feet for Northern cities, 1,705 for Southern cities, and 1,041 for all cities.

For two-story dwellings, the Northern average was 1,596 square feet, the Southern average was 1,959, and the national average was 1,606. The over-all average area for the combined story heights in all cities was found to be 1,208 square feet.

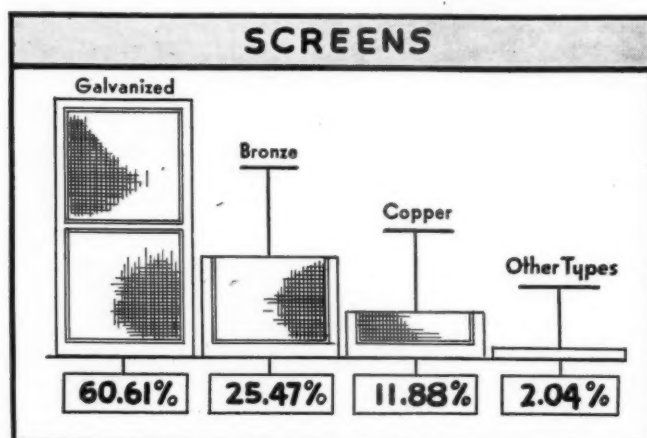
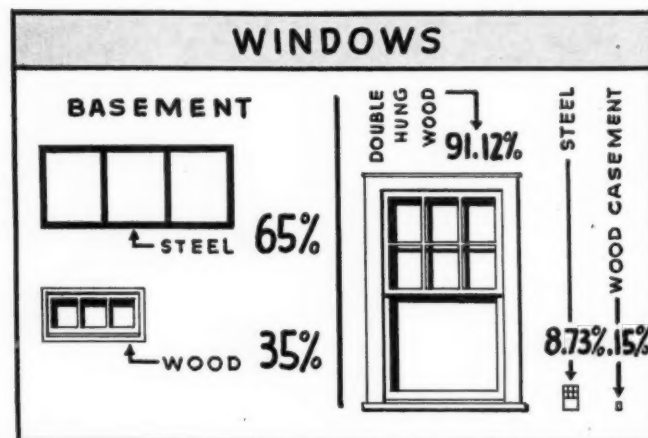
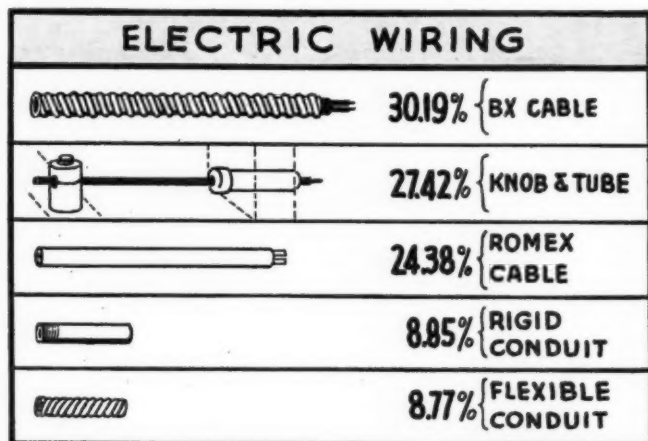
As further evidence that the size of houses varies between Northern and Southern cities, an analysis of the story heights of houses disclosed that only 53.7 per cent of the cases in Northern cities were one-story dwellings as against 93.22 per cent for Southern cities.

The study showed the following accessories used in 1,000 average FHA-insured houses:

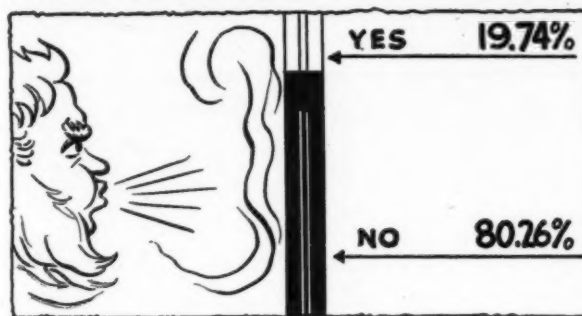
Finish Hardware	Units
Exterior door lock sets	2,000
Interior door lock or latch sets	10,984
Exterior door butts	6,000
Interior door butts	21,968
Door stops	12,984
Sash fasteners (wood DH sash)	14,640
Sash lifts (wood DH sash)	29,280
Closet clothes-hooks	18,000
Electric Wiring Accessories	
Wall switches with plates	12,000
Convenience receptacles with plates	14,000
Service inlets with meter-board, main switch and circuit panel	1,000
Lighting Fixtures	
Ceiling or wall fixtures	9,000
Exterior entrance door fixtures	2,000
Box cover with bulb sockets	3,000

During 1940, the survey shows, approximately 75 per cent of the new small homes financed under the FHA program were valued at less than \$6,000, including land and all utilities.

As indicated in the accompanying diagrams and charts, considerable detailed information was brought



## HOUSE WEATHERSTRIPPED



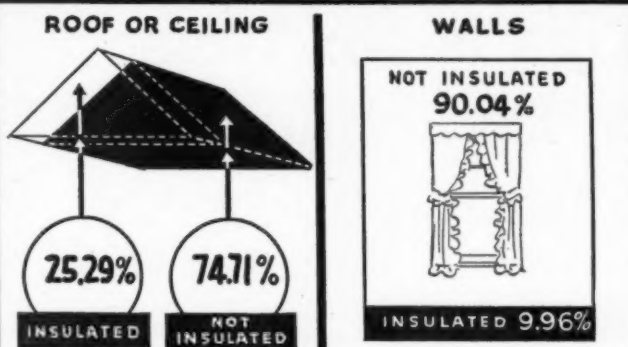
out in this study covering such design characteristics of these houses as the percentage of houses with full, partial or no basements, the number of baths, type of heating plant, type of construction material, roofing, windows, lath and plaster, insulation and such items.

In spite of all the talk for basementless houses, during the past few years, 69 per cent of the FHA homes of 1940 had full or partial basements.

Fireplaces continued popular; 62 per cent of the new homes being so equipped. Evidently, the disrepute of the dummy or show-mantel of a generation ago has been overcome by the attractiveness and practical heating ability of the functional fireplaces of today. Probably this trend to fireplace heating will expand further this year under the impetus of war conditions.

The popularity of wood constructed houses continues strong, the survey shows. Over 78 per cent of the houses built in 1941 had wood frames, over which exteriors of

## INSULATION



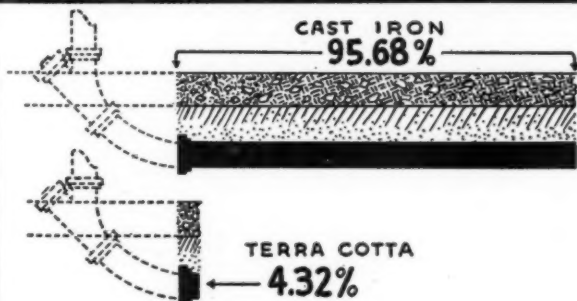
wood siding or shingles were applied to 42.55 per cent, of brick or stone veneer to 20.58 per cent and of stucco to 15.43 per cent. Masonry exterior walls totaled 10.17 per cent and other types 11.27 per cent.

As to the structural frame itself, except for the customary wood joists, studs and rafters, it was found that 45.36 per cent used steel columns, 36.09 per cent wood columns and 18.55 per cent masonry columns. The supporting girders were found to be 65.78 per cent wood and 34.22 per cent structural steel.

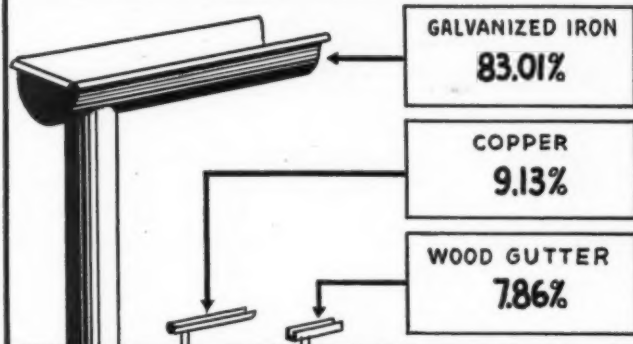
The definite trend today, under war conditions and "critical list" scarcity is, however, to switch back from Steel posts and beams to heavy timber or concrete for practically all home building and light load bearing commercial construction.

A study of the percentages shown in the diagrams will fix in mind a number of significant characteristics of today's homes, which, no doubt, will carry through 1942.

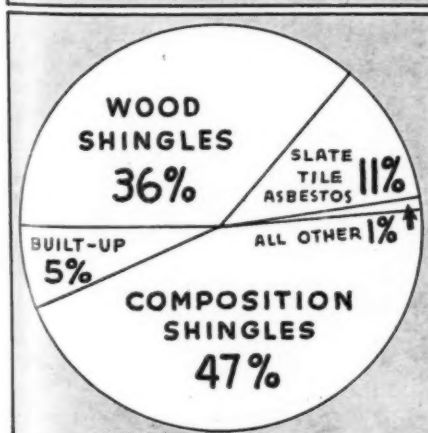
## SOIL AND WASTE PIPING UNDER BASEMENT FLOOR



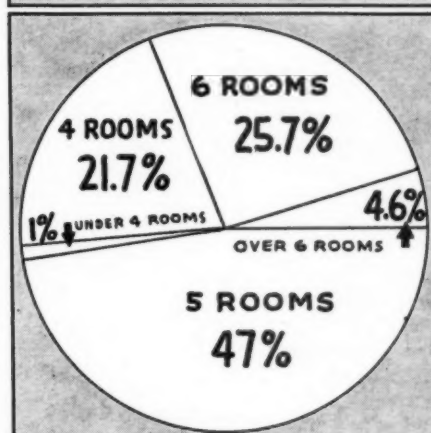
## GUTTERS AND DOWNSPOUTS



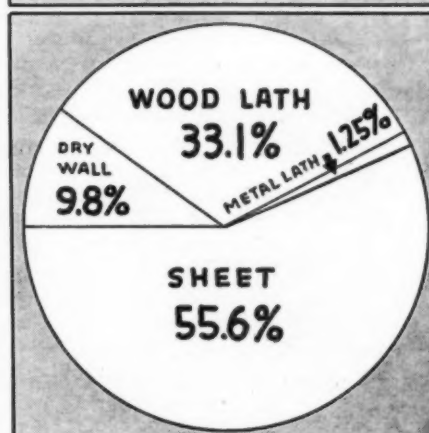
## 36% HAVE WOOD SHINGLES



## 47% HAVE 5 ROOMS



## TYPES OF LATH &amp; PLASTER





# This is No Time to Demobilize the Building Industry

Vast resources of second largest industry available for war effort. Private builders willing and able to provide defense housing

THE second largest industry in the country—construction—is girding itself for war.

The millions of men who make up this far-flung, gigantic and loosely organized industry are willing and anxious to do their part.

But intelligent understanding and direction by top authorities are needed.

It is time that the leaders of this industry be called in to mobilize their efforts to get the things done that need to be done. This is no time to demobilize the industry by unnecessary actions that will cripple it without contributing to national defense.

A glance at the accompanying chart serves to show the vast and far-reaching ramifications of the construction industry and of home building, one of its most important divisions. No wonder that men in Washington are confused.

It is a favorite trick of some of the public housing enthusiasts to refer to any opposition to public housing as being staged by "the real estate interests." This chart is an effective answer. *There are more than "real estate interests" involved in home building. There are hundreds of thousands of small business men, builders, dealers, manufacturers, subcontracting firms and many other small local firms that depend for their livelihood on this industry.* That is why we say this industry is the greatest dynamo of tax producing private enterprise and employment. It represents the "grass roots" of the private enterprise system. It operates in hundreds of thousands of scattered sites in 16,000 towns, cities and villages and 3,000 counties.

Defense officials should enlist the aid of this great body of American citizens, not engender their opposition by ill advised actions and speeches.

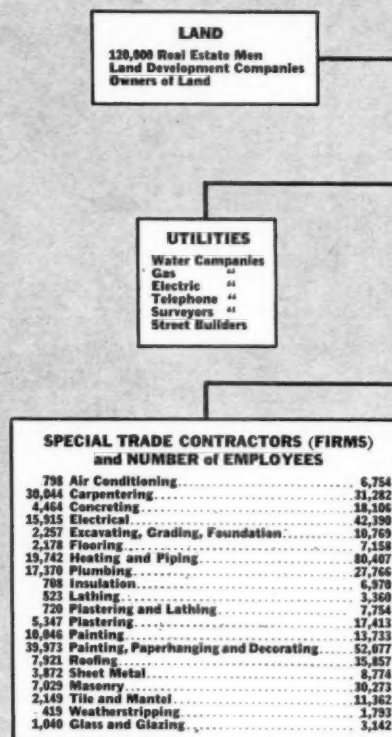
Nathan Straus, the petulant chief of the U. S. Hous-

## 327,700 Homes by Private Builders in Defense Areas in 1941—Public Only 66,900

DURING 1940 private builders erected a total of 519,000 dwelling units in the United States, of which 327,700, or 63 per cent, were in defense areas.

ALSO DURING 1941, public agencies built 96,000 dwelling units with public funds, of which only 66,900 were in defense areas. In other words, private builders erected five times as many homes in defense areas as public agencies—and did it without tapping the Federal Treasury.

## THE BUILDING INDUSTRY—Gigantic,



WHY THE CONSTRUCTION INDUSTRY, and particularly home building, is so important to the nation. It operates in more than 16,000 towns, cities and villages and 3,000 counties, making it one of the most widespread industries in the country.

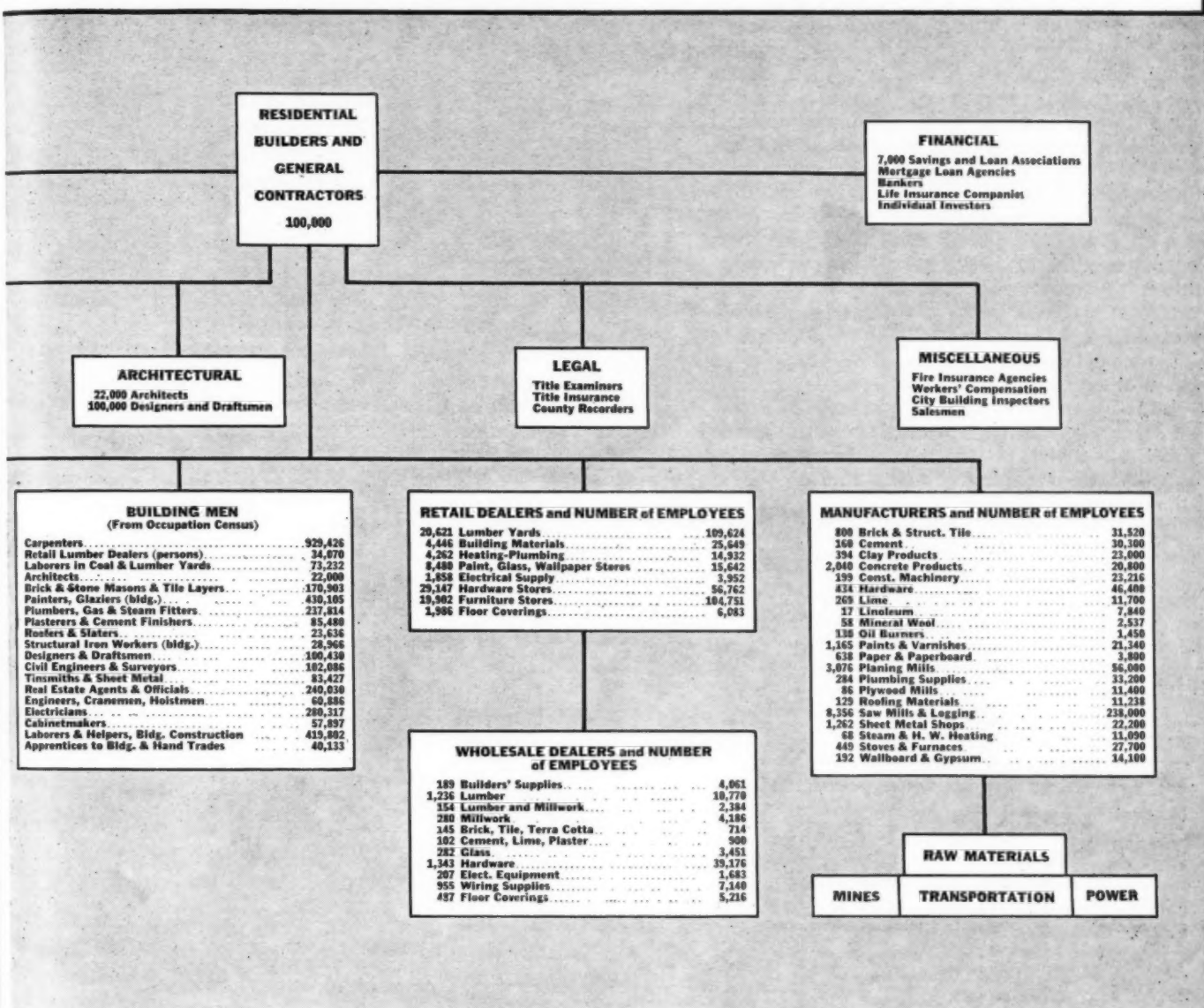
ing Authority, told Congress that private builders had failed to provide satisfactory defense housing. Sullivan Jones of OPM recently has said in effect the same thing.

The facts do not support these contentions. Private builders erected 327,700 homes in defense areas in 1941, according to Bureau of Labor Statistics figures, whereas the public agencies produced only 66,900 in these areas.

Even in the face of sharply rising prices, private builders have been producing well built, well equipped homes within reach of defense workers. Thirty per cent of defense workers earn over \$2,000 a year. An additional 25 per cent make from \$1,750 to \$2,000. Another 25 per cent make from \$1,500 to \$1,750, and only 20 per cent earn under \$1,500. And the above figures are based on regular pay, not figuring overtime. It is common knowledge that defense workers are making good money and can afford to pay for their own homes—they are not entitled to government subsidized public housing any more than any other group.

If private builders in any communities are not doing

## Far-Flung—Greatest Dynamo of Tax-Producing Private Enterprise and Employment



ing, affects the livelihood of so many millions of people is clearly shown in this chart. Thousands of small business firms, operating in up this widespread, far-flung industry which is second only to agriculture in size and importance in the national economy.

a satisfactory job the smart thing to do would be for defense officials to try to find out why. They may find out that the Federal Housing Administration, through its policy of not recognizing increased building costs "until they are stabilized" is choking off building. Or they may find that the agents of various U. S. public housing groups have been creating rumors about huge new government subsidized projects—rumors that quickly kill off new private building. They may find that SPAB's \$6,000 over-all price ceiling including land is as unwise and ill considered as most building men think it is.

Whatever the problems are, they can be solved by calling together the leaders of the industry, both nationally and locally, and threshing it out. Practically all the industries and groups of businesses shown in the accompanying chart have organizations and leaders well equipped to speak for them. Perhaps a building industry advisory council made up of top men from each group or official association is the answer.

## The "Grass Roots" of Private Enterprise

BECAUSE building operations, maintenance, repairs and home improvements are carried on by so many thousands of small firms, who in turn deal with additional thousands of local businesses such as are shown in the chart above, they may truly be described as the "grass roots" of private enterprise. Their work is done on hundreds of thousands of scattered sites—on rural hillsides as well as in city streets—each contributing to the permanent, taxable wealth of the nation, and in its way contributing to the cost of national defense.

NOTES ON CHART—Builders and contractors: Estimates vary from 75,000 to 150,000, depending on definition. Real estate men: One-half of total shown in 1930 Occupational Census. Special trade contractors: U. S. Census of Construction, 1939. Building men: Census of Occupations, 1930. Retail dealers and wholesalers: Census of Distribution, 1939. Manufacturers and employees: Partial list from Census of Manufacturers, 1939. Number of employees shown are for construction products only. Chart does not attempt to list all construction factors and does not show employment in transportation, mining and raw material production.



## Housing for Detroit's War Industry Workers

**D**ETROIT'S well organized home building industry has had a dress rehearsal of the past two years as preparation for the gigantic job of housing the increasing number of industrial workers needed in the war material production centering in that city. Being a community of small homes, it was natural that individual units would continue to be built in large numbers in all areas handy to the old and new plants. Block after block of good small dwellings are being rushed to completion by private builders.

Most of these fall into two classes—one consisting of houses similar in size and equipment to the two model designs shown on this page, and the second, a somewhat more compact and less elaborate version in asbestos shingled frame construction. The latter is sold at a price of about two-thirds that of these houses, offering livability and individuality at a monthly cost well within the budget of the defense plant workers.

The cost figures given in the article opposite are for houses similar to the two types described above. It is quite likely that the smaller type will become increasingly popular as the price provides considerable margin against further increases, and



THIS compact Detroit home featured by Starr-Massoll Co., has such extra items as tiled bath, slate floor in vestibule, G-E Disposall and an incinerator.



J. G. JUDSON, builder of this Detroit home, has given it a more impressive exterior through wider frontage and pleasing amount of well balanced detail.



still sell for within the \$6,000 defense housing bracket.

Both houses shown here are very well built, as is typical of Detroit houses in this class. The one above demonstrated Starr-Massoll Co. quality in the five-room range. It is well planned and has an unfinished second floor for an "extensible" feature of extra bedroom and bath space, if needed.

Other items include stone sills, double-hung weatherstripped windows, creosoted cedar shingles, rock wool in walls and ceiling, Bruce oak floors, kitchen ventilating fan and natural fireplace with slate hearth.

The second design, as illustrated to the left, was part of the 1941 model demonstration of Builder J. G. Judson. Although the rooms have been planned down to a minimum size, care was taken to assure ample space around furniture. There are six closets and numerous built-ins, including cabinets. Featured are snack bar, gas-fired winter conditioning, colored tile bath.



## How Typical Home Building Costs as Found in Detroit Have Increased Since 1939

Accurate figures kept by Miller Homes, Inc., on the various items of cost on two of their most popular homes show up to 25% increase in last 18 months

By R. E. Sangster

**T**RENDS in building costs for the year 1942 are difficult to forecast on any national basis at this time as the state of war has not existed for a long enough period to determine the effect of conditions which must necessarily follow. The trend up to the time this article was prepared has been a continuous increase which had somewhat leveled off at the time war was declared. Indications are that unless absolutely rigid price control covering all factors is established—something that does not at the present seem practical nor possible—this upward trend will continue.

The recent rise in prices has not been at the same rate in all sections and localities, and at various times

there have been momentary decreases or maintained levels in isolated instances. What has been taking place generally, however, is indicated in the following figures of a typical large operator in Detroit, the No. 1 industrial defense center, where defense housing operations are under way and will continue during 1942, operations of the same general type that will form a large bulk of residential building nationally.

The table shown below presents these figures kept by Miller Homes, Inc., one of the largest home building organizations in Detroit. Each major item of house construction is listed with costs as of a 1939 standard, and the costs as of June and December 1940, June,

Comparative Building Costs on an Average Detroit Small Home

CONSTRUCTION ITEM	STAND-ARD 1939	JUNE 1940	DEC. 1940	IN-CREASE	JUNE 1941	IN-CREASE	AUG. 1941	IN-CREASE	NOV. 1 1941	IN-CREASE
1. Survey.....	\$ 4.00	\$ 4.00	\$ 4.00	.....	\$ 4.00	.....	\$ 5.00	1.00	\$ 5.00	.....
2. Permit.....	4.00	5.00	5.00	.....	8.00	3.00	8.00	.....	8.00	.....
3. Excavation.....	110.00	110.00	95.00	20.00	115.00	20.00	115.00	.....	115.00	.....
4. Masonry.....	935.00	935.00	930.00	5.00	970.00	40.00	990.00	20.00	1,010.00	20.00
5. Steel.....	40.00	43.54	40.00	3.54	47.50	7.50	55.00	7.50	55.00	.....
6. Plumbing.....	390.00	398.00	410.00	12.00	415.00	5.00	450.00	35.00	485.00	35.00
7. Heating.....	132.00	152.00	160.00	8.00	160.00	.....	168.00	8.00	168.00	.....
8. Lumber.....	814.49	828.41	1,100.00	271.59	1,100.00	.....	1,210.00	110.00	1,210.00	.....
9. Roofing.....	80.62	81.98	84.00	2.02	92.00	8.00	100.00	8.00	100.00	.....
10. Millwork.....	22.38	19.39	16.00	3.39	16.00	.....	16.00	.....	16.00	.....
11. Insulation.....	35.00	35.00	35.00	.....	39.00	4.00	39.00	.....	44.00	5.00
12. Carpenter: Rough.....	210.00	210.00	210.00	.....	235.00	25.00	250.00	15.00	250.00	.....
13. Carpenter: Finish.....	112.00	103.00	105.00	2.00	115.00	10.00	125.00	10.00	125.00	.....
14. Shingling.....	19.00	19.50	19.00	.50	22.80	3.80	26.60	3.80	26.60	.....
15. Floor Laying.....	14.00	14.20	14.00	.20	15.70	1.70	15.70	.....	15.70	.....
16. Floor Sanding.....	11.00	12.00	12.00	.....	12.00	.....	14.00	2.00	14.00	.....
17. Sheet Metal.....	29.00	28.57	29.00	.43	35.00	6.00	35.00	.....	42.50	7.50
18. Wiring.....	80.30	87.10	85.00	2.10	85.00	.....	85.00	.....	91.50	6.50
19. Plastering.....	245.00	245.00	262.00	17.00	290.00	28.00	290.00	.....	290.00	9.50
20. Hardware.....	75.00	72.38	75.00	2.62	82.50	7.50	82.50	.....	90.75	8.25
21. Glazing.....	16.87	15.91	25.00	9.09	25.00	.....	25.00	.....	25.00	.....
22. Cement.....	132.04	135.00	150.00	15.00	170.00	20.00	170.00	.....	170.00	.....
23. Painting.....	175.00	175.00	175.00	.....	200.00	25.00	220.00	20.00	220.00	.....
24. Tile.....	145.00	145.00	145.00	.....	145.00	.....	165.00	20.00	165.00	.....
25. Light Fixtures.....	35.00	35.00	40.00	5.00	40.00	.....	40.00	.....	40.00	.....
26. Weatherstrip.....	12.50	12.00	14.00	2.00	14.00	.....	14.00	.....	14.00	.....
27. Linoleum.....	44.36	42.97	43.00	.03	43.00	.....	43.00	.....	47.30	4.30
28. Grading.....	14.00	14.00	14.00	.....	14.00	.....	14.00	.....	14.00	.....
29. Cleaning.....	10.00	12.00	12.00	.....	14.00	2.00	14.00	.....	14.00	.....
30. Plans.....	20.00	25.00	35.00	10.00	35.00	.....	35.00	.....	35.00	.....
31. Miscellaneous.....	75.00	75.00	100.00	25.00	100.00	.....	100.00	.....	100.00	.....
32. Commission.....	249.50	249.50	269.50	.....	284.50	15.00	284.50	.....	300.00	15.50
33. Comp. Ins.....	50.00	50.00	50.00	.....	50.00	.....	50.00	.....	50.00	.....
34. Overhead.....	150.00	150.00	150.00	.....	150.00	.....	150.00	.....	150.00	.....
35. TOTAL.....	4,492.06	4,540.45	4,926.50	347.05	5,158.00	231.50	5,418.30	260.30	5,529.85	111.55
36. Per Cent Increase.....	.....	.....	.....	8%	.....	5%	.....	4.6%	.....	2%
37. PROFIT.....	597.94	549.55	413.50	.....	432.00	.....	571.70	.....	560.15	.....
TOTAL PRICE.....	\$5,090.00	\$5,090.00	\$5,340.00	5%	\$5,590.00	5%	\$5,990.00	4.6%	\$6,090.00	2%

## Comparative Building Costs on Low Cost "Budget" Home

CONSTRUCTION ITEMS	JUNE 1940	DEC. 1940	IN- CREASE	JUNE 1941	IN- CREASE	AUG. 1941	IN- CREASE	NOV. 1941	IN- CREASE
1. Survey.....	\$ 4.00	\$ 4.00		\$ 4.00		\$ 5.00	1.00	\$ 5.00	
2. Permit.....	4.00	7.00	3.00	8.00	1.00	8.00		8.00	
3. Excavation.....	100.00	105.00	5.00	115.00	10.00	115.00		115.00	
4. Masonry.....	330.00	330.00		365.00	35.00	365.00		365.00	
5. Steel.....	28.97	28.97		33.00	4.03	41.00	8.00	41.00	
6. Plumbing.....	360.00	385.00	25.00	390.00	5.00	415.00	25.00	465.00	50.00
7. Heating.....	120.00	125.00	5.00	132.00	7.00	142.00	10.00	142.00	
8. Lumber.....	572.08	767.54	195.46	797.07	29.50	877.07	80.00	877.07	
9. Roofing.....	195.00	125.74	5.64	137.74	12.00	149.74	12.00	149.74	
10. Millwork.....	6.86	9.74	2.88	9.74		9.74		9.74	
11. Insulation.....	20.00	25.00	5.00	30.00	5.00	30.00		32.00	2.00
12. Carpenter: Rough.....	165.00	185.00	20.00	195.00	10.00	220.00	25.00	220.00	
13. Carpenter: Finish.....	70.00	75.00	5.00	79.00	4.00	89.00	10.00	89.00	
14. Shingling.....		12.67		14.17	1.50	17.67	3.50	17.67	
15. Shingling Sidewall.....		33.60		34.65	1.05	34.65		34.65	
16. Floor Laying.....	11.50	12.00	.50	13.50	1.50	13.50		13.50	
17. Floor Sanding.....	7.50	11.00	3.50	12.00	1.00	13.00	1.00	13.00	
18. Sheet Metal.....		17.35		22.89	5.54	22.89		27.89	5.00
19. Wiring and Fixtures.....	67.00	62.15	4.85	67.95	5.80	67.95		72.70	4.75
20. Plastering.....	185.00	195.00	10.00	221.65	26.65	221.65		229.05	7.40
21. Hardware.....	53.49	58.13	4.64	75.00	16.87	82.50	7.50	90.00	7.50
22. Glazing.....	5.60	5.56	.04	10.40	4.84	10.40		10.40	
23. Cement.....	100.00	130.89	30.89	130.00	.89	130.00		140.00	10.00
24. Painting.....	120.00	120.00		135.00	15.00	160.00	25.00	160.00	
25. Weatherstrip.....	5.00	8.00	3.00	8.00		9.00	1.00	9.00	
26. Linoleum.....	50.64	51.10	.46	56.63	5.53	62.29	5.66	62.29	
27. Grading.....	7.00	10.00	3.00	14.00	4.00	14.00		14.00	
28. Cleaning.....	5.00	7.00	2.00	10.00	3.00	10.00		12.00	2.00
29. Plans.....	15.00	25.00	10.00	25.00		25.00		25.00	
30. Miscellaneous.....	50.00	75.00	25.00	75.00		75.00		75.00	
31. Commission.....	119.50	169.50	50.00	194.50	25.00	194.50		210.00	15.50
32. Comp. Ins.....	50.00	50.00		50.00		50.00		50.00	
33. Overhead.....	100.00	100.00		100.00		100.00		100.00	
34. TOTAL.....	\$2,928.14	\$3,326.94	398.80	\$3,565.89	238.92	\$3,780.55	214.66	\$3,884.70	104.15
35. Per Cent Increase.....			13%		7%		5.5%		2.5%
36. PROFIT.....	461.86	323.06		324.11		309.45		305.30	
TOTAL.....	\$3,390.00	\$3,650.00	8%	\$3,890.00	7%	\$4,090.00	5.5%	\$4,190.00	2.5%

August and November of 1941. It will be noticed that the total costs range from approximately \$5,000 to \$6,000, and according to George W. Miller, president of the firm, these totals represent, respectively, what was an average cost of a Miller home at the time this record was started, and what is an average cost of such a home today. It has been built approximately thirty times in the past two years, and provides a good average figure.

It is interesting to note that from the 1939 *Standard Costs to June 1940* many items remained the same, several decreased slightly but others increased enough to make

the *total before profit* show an increased cost of about 1 per cent. This was absorbed, however, by adding a smaller profit so that *total price* was the same. From June 1940 on, many items show a substantial cost increase with both *total cost* and *total price* rising approximately \$1,000 in a year and a half. It will also be noted that the last three months period shown—August to November, 1941—presents the smallest number of increased items and the smallest percentage of increase.

The other table, shown above, is similar to this first one presented but covers the costs on a "Budget House."

## Building in 140 Metropolitan Areas, First Half 1941

**Analysis of cities where 57.8% of new homes were built; 110 of them designated as defense areas.**

**W**AR construction and war housing are expected to accelerate the movement of population to industrial areas. A high percentage of *American Builder* readers already operate in the metropolitan areas surrounding war production centers, and others will undoubtedly transfer their activities there.

In the table below are listed the 140 metropolitan districts of the United States as defined by the U. S. Census, representing a population of 63 millions. Of these, more than 110 have already been designated as defense areas, and more will undoubtedly be included later.

These 140 metropolitan districts include 1,100 incorporated communities adjacent to the central cities. And it is in these 1,100 satellite or suburban communities that most of the residential construction is now being built and can be expected to be built under the defense program. An important point in this connection is that for the most part the 1,100 communities are essentially small towns in which local building operations take place more or less independently of the central city.

Home building in the 140 metropolitan areas shown in this table is based on building permits reported by the Bureau of Labor Statistics for the first half of 1941—the latest available. It is reasonable to assume that percentages established the first half will apply fairly closely to the year's total.

In addition to the 110 metropolitan defense areas marked with an asterisk in this table, there are more than 180 other towns, cities and communities of smaller size



that have been designated as defense areas. The Bureau of Labor Statistics estimates the total population of all the present defense areas at approximately 61,500,000. However, it should be pointed out that the fact that a city has been designated as a defense area does not mean that defense housing can be built everywhere in it. Each community is especially studied by defense housing officials and given a quota.

It is a significant fact that B. L. S. studies show 394,000 housing units (64 per cent of U. S. total) were

provided in 1941 in defense areas, of which only 66,900 were publicly financed.

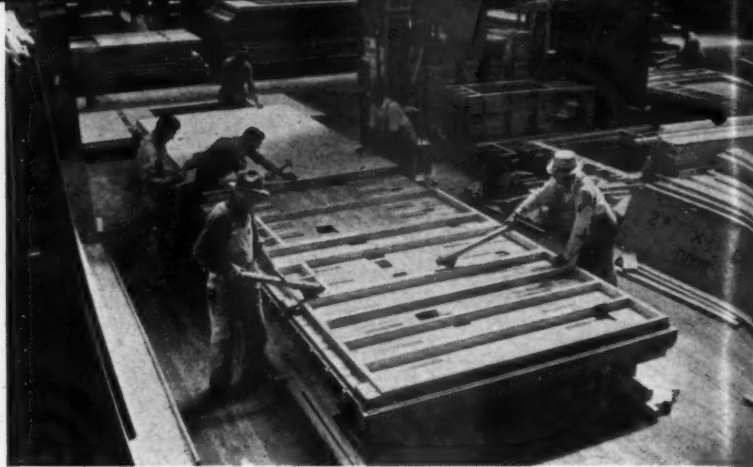
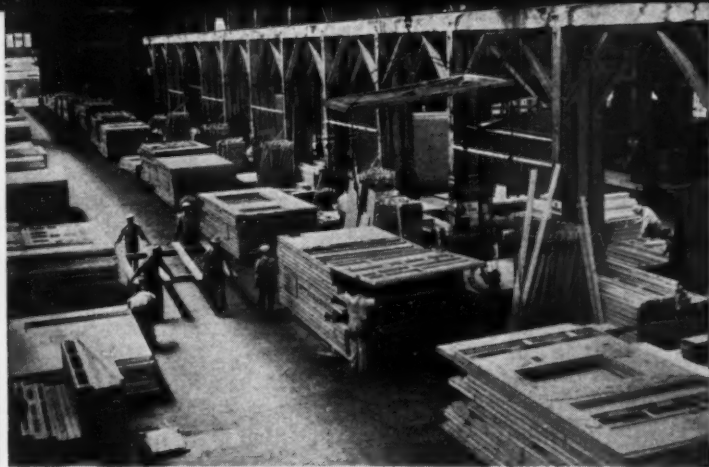
As shown in the table below, 57.8 per cent of the new homes built in the first half of 1941 were in the 140 metropolitan areas listed. This fact is deduced from building permits reported by the U. S. Bureau of Labor Statistics as follows:

Total Nonfarm Dwelling Units.....318,808  
Dwelling Units in 140 Metropolitan Areas.....184,163  
Per Cent in Metropolitan Areas..... 57.8

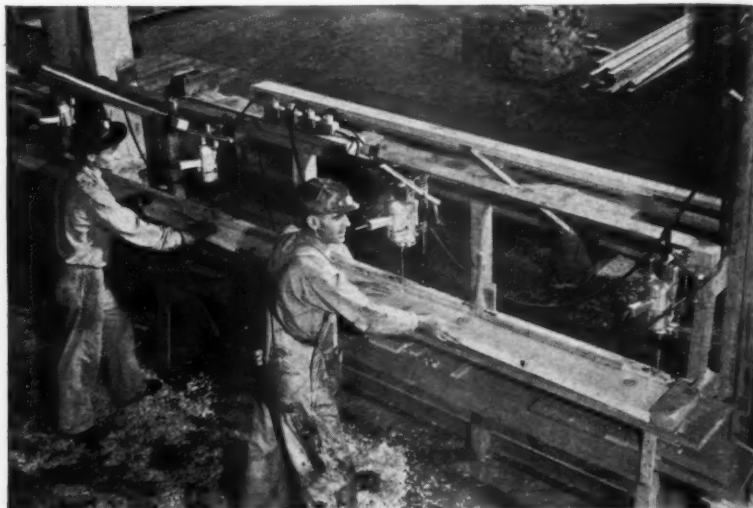
Number and Permit Valuation of New Dwelling Units in Incorporated Areas Within Metropolitan Districts, First Half of 1941.  
Asterisk Indicates Defense Area.

Metropolitan district	All types of dwellings		1-family dwellings		Multifamily dwellings	
	Number of units	Permit valuation	Number of units	Permit valuation	Number of units	Permit valuation
*Akron, Ohio.....	974	\$ 4,115,749	951	\$4,023,699	9	\$ 38,000
*Albany-Schenectady-Troy, N. Y.....	242	1,266,127	199	1,118,325	37	122,000
*Allentown-Bethlehem-Easton, Pa.....	777	3,067,459	701	2,847,059	0	0
Altoona, Pa.....	24	114,400	24	114,400	0	0
Amarillo, Tex.....	285	1,030,519	285	1,030,519	0	0
Asheville, N. C.....	23	86,300	23	86,300	0	0
*Atlanta, Ga.....	1,152	2,733,150	969	2,464,850	45	33,000
Atlantic City, N. J.....	137	594,350	117	537,150	8	13,000
*Augusta, Ga.....	168	419,516	163	408,766	0	0
Austin, Tex.....	477	1,581,575	428	1,426,164	27	70,500
*Baltimore, Md.....	3,671	11,326,796	3,058	10,124,496	233	563,400
*Beaumont-Port Arthur, Tex.....	299	668,034	272	629,369	0	0
*Binghamton, N. Y.....	76	368,050	74	363,050	0	0
*Birmingham, Ala.....	989	1,906,614	849	1,810,060	11	15,000
*Boston, Mass.....	4,430	18,727,189	2,323	11,046,489	1,970	7,114,800
*Bridgeport, Conn.....	1,308	4,885,600	976	3,934,450	132	335,500
*Buffalo-Niagara, N. Y.....	1,775	5,209,434	1,455	4,351,546	117	323,588
*Canton, Ohio.....	603	2,732,650	661	2,745,050	0	0
Cedar Rapids, Iowa.....	161	681,400	156	667,600	3	8,800
*Charleston, S. C.....	312	750,050	106	288,216	18	4,500
*Charleston, W. Va.....	541	1,906,801	457	1,645,901	30	91,000
*Charlotte, N. C.....	363	1,663,237	262	964,599	33	62,450
*Chattanooga, Tenn.....	183	651,320	183	651,320	0	0
*Chicago, Ill.....	5,885	34,957,662	5,556	33,644,180	140	437,532
*Cincinnati, Ohio.....	2,983	11,779,186	1,053	5,763,028	1,733	5,190,408
*Cleveland, Ohio.....	2,751	17,165,570	2,460	15,737,370	241	1,123,000
*Columbia, S. C.....	447	998,221	221	589,771	82	159,860
*Columbus, Ga.....	450	932,196	273	612,091	44	55,000
*Columbus, Ohio.....	1,163	6,359,525	831	5,136,525	278	993,500
*Corpus Christi, Tex.....	1,445	4,153,090	1,205	3,669,215	86	147,675
*Dallas, Tex.....	2,254	6,417,374	1,935	5,913,624	176	279,800
*Davenport, Iowa-Rock Island-Moline, Ill.....	661	2,620,118	573	2,356,820	50	151,820
*Dayton, Ohio.....	931	3,954,808	700	3,290,558	109	302,500
*Decatur, Ill.....	506	1,586,274	338	1,160,114	36	100,055
*Denver, Colo.....	2,084	6,371,367	1,678	5,592,427	286	468,000
*Des Moines, Iowa.....	403	1,781,685	393	1,773,785	7	6,500
*Detroit, Mich.....	11,044	53,641,403	10,653	52,112,628	32	58,300
*Duluth, Minn.-Superior, Wis.....	170	646,525	166	628,025	0	0
Durham, N. C.....	205	656,870	141	562,070	4	3,600
*El Paso, Tex.....	222	930,020	196	867,320	16	25,500
*Erie, Pa.....	621	2,107,850	609	2,076,250	8	22,000
*Evansville, Ind.....	185	521,750	169	482,600	0	0
*Fall River-New Bedford, Mass.....	95	340,550	82	308,550	5	15,000
*Flint, Mich.....	387	1,632,579	379	1,610,579	0	0
*Fort Wayne, Ind.....	276	1,361,213	276	1,361,213	0	0
*Fort Worth, Tex.....	678	2,077,235	626	1,994,435	4	7,000
*Fresno, Calif.....	252	1,059,120	249	1,051,120	3	8,000
*Galveston, Tex.....	377	910,811	280	732,011	80	146,000
Grand Rapids, Mich.....	301	1,385,500	297	1,375,500	4	10,000
Greensboro, N. C.....	191	615,540	145	561,765	12	10,000
*Hamilton-Middletown, Ohio.....	156	696,000	156	696,000	0	0
*Harrisburg, Pa.....	190	967,280	175	929,480	4	18,000
*Hartford-New Britain, Conn.....	2,271	9,322,099	1,929	8,327,499	24	62,000
*Houston, Tex.....	2,565	7,629,511	2,106	6,775,973	235	426,500
Huntington, W. Va.-Ashland, Ky.....	237	812,783	211	766,133	0	0
*Indianapolis, Ind.....	979	4,138,775	774	3,388,425	78	394,000
*Jackson, Miss.....	681	1,076,019	404	869,000	21	36,800
*Jacksonville, Fla.....	2,285	6,664,531	1,843	5,662,923	152	467,900
*Johnstown, Pa.....	52	232,100	49	218,600	0	0
Kalamazoo, Mich.....	33	211,000	31	203,500	0	0
*Kansas City, Mo.-Kansas City, Kans.....	374	1,088,350	327	991,850	43	90,500
*Knoxville, Tenn.....	126	435,386	123	430,586	0	0
Lancaster, Pa.....	88	366,500	88	366,500	0	0
*Lansing, Mich.....	275	1,253,300	265	1,213,300	4	10,000
Lincoln, Nebr.....	135	542,591	115	464,295	16	33,846
*Little Rock, Ark.....	890	1,055,810	297	879,304	32	97,747
*Los Angeles, Calif.....	20,350	66,793,729	14,429	52,357,911	4,785	12,086,837
*Louisville, Ky.....	748	2,022,994	733	1,985,644	8	18,750
*Lowell-Lawrence-Haverhill, Mass.....	161	696,700	151	664,800	6	12,400
*Macon, Ga.....	422	1,022,275	318	813,304	0	0
*Madison, Wis.....	178	602,600	85	389,400	77	171,500
Manchester, N. H.....	95	272,208	79	239,708	6	10,000
*Memphis, Tenn.....	1,331	3,978,571	861	3,017,296	20	65,000
Miami, Fla.....	1,853	7,687,712	1,348	6,617,161	319	621,094
*Milwaukee, Wis.....	1,304	6,618,915	874	5,010,920	104	289,500
*Minneapolis-St. Paul, Minn.....	2,225	10,448,295	1,907	9,793,645	170	459,900
*Mobile, Ala.....	917	2,134,875	781	2,018,665	19	20,750
Montgomery, Ala.....	305	823,700	253	723,700	28	60,000
*Nashville, Tenn.....	364	914,400	269	724,363	18	17,200
*New Haven, Conn.....	691	3,032,592	381	1,940,235	300	1,039,657
*New Orleans, La.....	646	2,098,768	391	1,515,098	40	143,600
*New York City-Northeastern New Jersey.....	24,982	101,236,627	11,652	55,604,282	11,371	39,224,082
*Norfolk-Portsmouth-Newport News, Va.....	2,272	6,660,100	2,062	6,186,100	166	375,100
*Oklahoma City, Okla.....	615	2,406,585	558	2,332,310	4	2,500
*Omaha, Nebr.-Council Bluffs, Iowa.....	406	1,562,920	384	1,500,770	4	10,000
*Peoria, Ill.....	527	1,987,627	366	1,510,790	37	113,415
*Philadelphia, Pa.....	7,536	30,628,954	6,825	28,256,982	592	2,091,922
Phoenix, Ariz.....	259	900,095	247	879,695	4	4,600
*Pittsburgh, Pa.....	2,325	11,362,784	2,113	10,652,347	103	313,914
*Portland, Maine.....	142	521,675	138	508,675	4	13,000
*Portland, Ore.....	1,348	5,219,035	1,140	4,638,785	163	420,000
*Providence, R. I.....	2,399	8,824,616	1,344	5,420,320	776	2,657,210
Pueblo, Colo.....	150	369,325	149	366,325	0	0
*Racine-Kenosha, Wis.....	157	753,518	136	687,718	19	58,200
*Reading, Pa.....	66	320,503	66	320,503	0	0
*Richmond, Va.....	424	1,612,820	366	1,404,670	4	14,000
Roanoke, Va.....	87	357,355	87	357,355	0	0
*Rochester, N. Y.....	476	2,187,185	470	2,171,035	0	0
*Rockford, Ill.....	200	740,050	170	666,550	28	67,500
*Sacramento, Calif.....	1,047	4,038,209	1,010	3,937,379	18	44,890
*Saginaw-Bay City, Mich.....	331	1,080,591	309	1,012,741	10	28,000
Saint Joseph, Mo.....	35	54,500	27	44,500	6	6,000
Saint Louis, Mo.....	3,242	13,129,695	1,620	6,881,802	1,083	4,430,584
*Salt Lake City, Utah.....	757	2,821,026	666	2,549,076	44	91,200
*San Antonio, Tex.....	877	2,065,840	762	1,834,965	46	86,400
*San Diego, Calif.....	3,608	10,526,288	3,068	9,449,329	240	439,398
*San Francisco-Oakland, Calif.....	9,157	34,091,748	8,073	30,654,706	549	1,710,717
*San Jose, Calif.....	386	1,485,760	346	1,390,725	31	64,135
*Savannah, Ga.....	214	579,007	175	500,607	14	24,500
Seranton-Wilkes-Barre, Pa.....	161	714,195	143	647,895	0	0
*Seattle, Wash.....	2,110	8,056,523	1,773	7,107,192	297	845,945
*Shreveport, La.....	530	1,660,952	500	1,639,802	0	0
Sioux City, Iowa.....	86	392,700	80	359,200	4	25,000
*South Bend, Ind.....	889	3,322,798	887	3,304,298	0	0
*Spokane, Wash.....	356	1,429,015	351	1,422,015	5	7,000
*Springfield, Ill.....	114	483,853	114	483,853	0	0
*Springfield, Mo.....	195	337,465	178	317,165	9	10,800
*Springfield, Ohio.....	100	430,000	91	394,000	9	36,000
*Springfield-Holyoke, Mass.....	376	1,594,541	340	1,491,541	32	90,000
*Stockton, Calif.....	272	983,991	134	636,341	116	274,250
*Syracuse, N. Y.....	80	397,600	80	397,600	0	0
*Tacoma, Wash.....	567	1,902,420	541	1,825,920	22	66,000
*Tampa-St. Petersburg, Fla.....	837	2,354,324	710	2,116,931	25	35,200
Terre Haute, Ind.....	19	32,250	19	32,250	0	0
*Toledo, Ohio.....	533	2,648,213	447	2,392,776	54	152,000
*Topeka, Kans.....	96	396,250	96	396,250	0	0
*Trenton, N. J.....	47	325,531	45	311,531	0	0
*Tulsa, Okla.....	687	2,442,226	658	2,401,965	0	0
*Utica-Rome, N. Y.....	31	106,200	29	101,200	0	0
Waco, Tex.....	143	285,284	139	280,634	0	0
*Washington, D. C.....	9,963	34,985,941	3,771	10,224,589	6,130	15,544,693
*Waterbury, Conn.....	483	1,633,900	467	1,590,600	6	15,800
Waterloo, Iowa.....	237	812,657	237	812,657	0	0
Wheeling, W. Va.....	80	381,436	71	353,746	4	10,000
*Wichita, Kans.....	864	1,819,783	745	1,649,783	89	121,500
*Wilmington, Del.....	180	857,235	162	804,035	8	22,000
Winston-Salem, N. C.....	226	704,070	189	664,870	25	29,700
*Worcester, Mass.....	465	1,811,425	360	1,395,127	91	388,000
*York, Pa.....	134	494,545	132	464,545	0	0
*Youngstown, Ohio.....	853	3,359,107	833	3,267,457	4	18,000
<b>TOTAL.....</b>	<b>184,163</b>					





**OLD WAREHOUSE** serves as fabricating plant. **AT LEFT**—Prefabricated sections for 18 houses are seen ready for loading on trucks. **AT RIGHT**—Wall sections are built on special jig tables. Workmen are seen applying glue to studs with special device.



**BUILDING CEILING SECTIONS**—Building board is glued and nailed to furring strips on bottom of rafters. **RIGHT**—Multiple drill in operation—one of many types of power equipment that were used.

## Pre-Fab Pre-View

**1942 may see still further advance  
in prefabrication for war housing.**

**How mass methods were used at  
Vallejo, Calif., and Fort Leonard  
Wood, Mo.**

**T**HE year 1941 may go down in building history as the year in which prefabrication of homes made its first great strides toward mass volume. After years of experiment and trial, home prefabricators were given a big boost by government defense housing projects which enabled them to turn many theories into actual mass production volume.

Most outstanding prefabrication job of the year was that performed by Contractors Barrett & Hilp at Vallejo, Calif., where 977 prefabricated demountable houses were completed in less than three months' time.

As a preview of things to come the accompanying pictures are noteworthy and newsworthy, showing as they do the extensive use of power equipment and mass handling of materials. Barrett & Hilp used the same

system in building a 500-unit defense home project at Fort Leonard Wood, Mo.

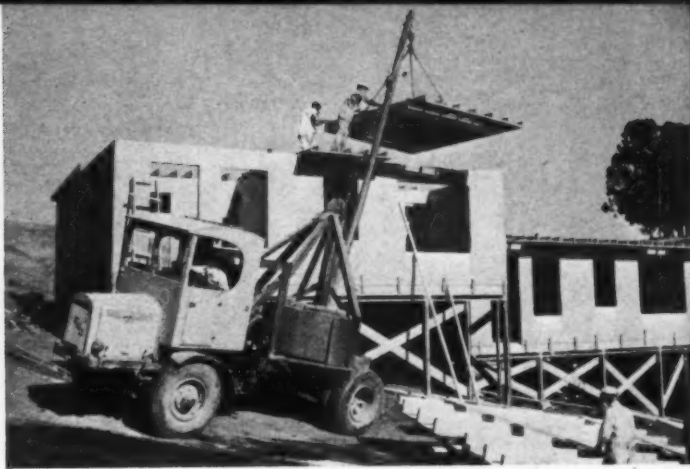
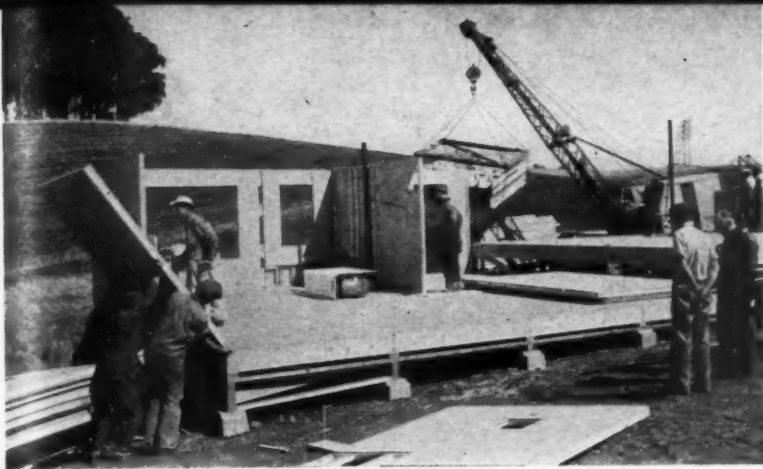
In both of these jobs Barrett & Hilp employed the Homasote Precision-Built system of construction, in which floor, wall and roof sections are constructed in a local shop and delivered to the site ready for erection in a few hours. (This system was described in the January 1941 issue of *American Builder*.)

The Homasote Company has emerged as the nation's largest builder of prefabricated homes with an estimated 9,000 units in 1941. This success represents a triumphant achievement for F. Vaux Wilson, the energetic vice president and general manager of Homasote Company, who originated and developed the Precision-Built system and secured its approval by defense housing agencies.

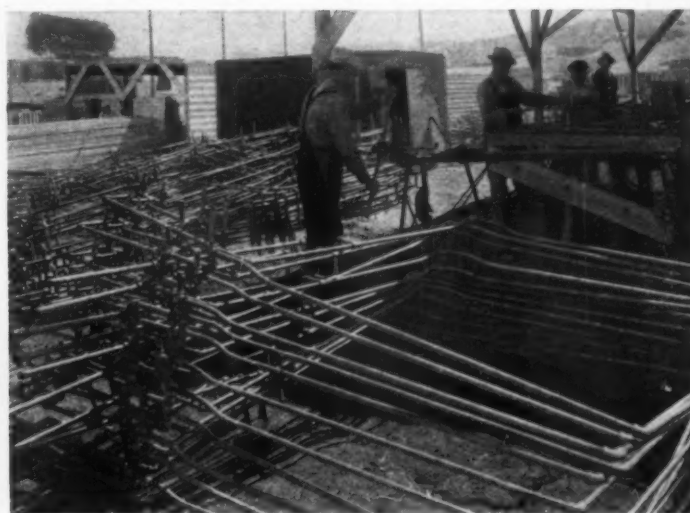
The size of these projects, however, made possible some truly amazing advances in mass production technique with the use of unheard of equipment and power devices.

The schedule at Vallejo, Calif., called for fabrication and erection of 25 houses a day. An old warehouse was rented and turned into a prefabrication shop, fully equipped with power saws, overhead cranes, and jigs for the building of the floor and wall sections. At Fort Leonard Wood the schedule called for the construction of 15 houses per day.

Precast concrete piers built in a central fabricating plant were a feature of these jobs. Special demountable forms were developed for this work and after the piers had cured, they were placed on sleds, which were taken to the house locations by a carrier. At the house locations a 20-inch diameter footing 6 inches thick was used.



**ERECTING WALL AND CEILING SECTIONS**—Wall sections are lifted quickly into place by hand. Light crane is used for ceiling sections. Note prefabricated plumbing assembly in position at left.



**PRECAST CONCRETE PIERS** are made in forms (left), 84 at a batch. **RIGHT**—25 water line assemblies are turned out in a day by four plumbers. Only a few moments are required to install the assembly.

The hole for this footing was dug with a mechanical hole borer. The concrete was poured into a box designed to hold exactly the right amount of material. After the box was filled from the concrete mixer, the mason emptied the material out and then used the box to puddle the concrete comprising the footing. Sufficient time was allowed for the concrete footing to take its initial set, and then the precast piers were positioned alongside special 2 x 6 templates, which had been located with a transit.

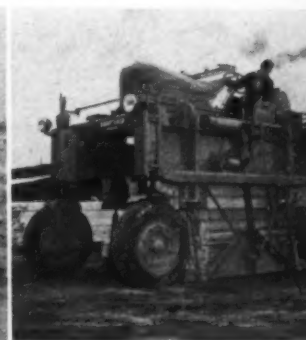
While the foundation work proceeded in the field, the fabrication shop, a few miles away, produced completely fabricated units for all the house parts. These consisted of floor sections, wall sections, ceiling sections, gable end, roof and also the steps, door hoods and coal bins. All the framing lumber and Homasote for all sections was precut and stored on racks. Everything was scheduled beforehand and the men worked from these schedules. As all Precision-Built houses are built on a modular basis every schedule is worked out in even inches and the controls on the cutting tables were in even inches. Fractional dimensions were automatically taken care of by the cutting gauge, four different types of which were required for the average house. All the precut members are then delivered to the various jig tables for assembly. The framing members for windows and doors and various wall intersections are prefabricated into subassemblies. These are then placed on the jig table just as studs would be positioned.

As the Precision-Built system employs the stress covering principle, the large sheets of Homasote are both

*(Continued to page 68)*



**WIRING** is inserted in wall sections at shop. **RIGHT**—Templates are used in cutting openings for outlet boxes.



**HOLE BORER** was used to dig foundation holes. **AT RIGHT**—Huge carrier transports lumber from cars to prefabrication plant.





*Photos by John Goss*

**SHUTTERS, narrow siding and Colonial design give better than average appeal to this Ridgeway Farms home built by Anderson & Green.**



**STONE FRONT, bay windows and a delicate decorative treatment of cornice board make this model especially interesting.**



**ANOTHER VARIATION of the Ridgeway Farms cottages with extra size shuttered windows, screened front porch. G. G. Foster, architect.**

## A-1 Priority on Year 'Round Charm

**Fine small homes built by Anderson & Green have unusual architectural appeal in defense home price range**

**H**ERE we have the kind of well designed small houses that will bring year 'round charm and cheer to home owners in defense areas or elsewhere.

They are small but well proportioned and are provided with architectural appeal that is better than the average defense type small home.

All of the designs on these pages are variations of the single well-laid-out floor plan opposite. By reversing the plan and making use of a variety of materials, Builders Anderson & Green have achieved a notably successful public appeal. The houses are located in Ridgeway Farms, a development near White Plains, where Anderson & Green have built and sold some 25 houses in the past 15 months.

While White Plains has not been yet declared a defense area, there is a possibility that it may be. Land values in the Ridgeway Farms area are such that it would be difficult to build a \$6,000 house there. However, these designs are small enough and simple enough





**SMALL IN SIZE** but big in living comfort is this white brick cottage built in White Plains, N. Y., illustrating "Extensible House" idea.

to be definitely in the defense homes class in many parts of the country.

Into these Ridgeway Farms homes Anderson & Green have put the benefit of long experience, and the success of the development has shown that "experience is still the best teacher." Hewland J. Green, one of the partners, has been constructing houses for more than 25 years.

Close by the Contemporary Club, in the Gedney Farms section of White Plains, Ridgeway Farms has been developed as an attractive Colonial village, with every dwelling, though slightly different, savoring of early American home tradition. There are structures in the spirit of Vermont farm houses and Williamsburg town houses, as well as the ever popular Cape Cod cottage or New England farmstead. George G. Foster, of Harrison, N. Y., is the architect for them all.

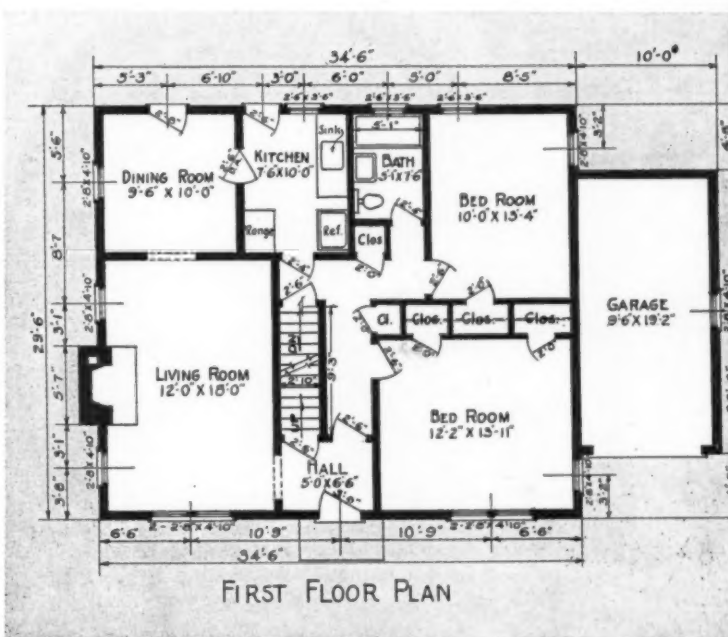
Several novel ideas have been employed successfully in these house plans. The room layouts are such that the sleeping quarters may be shut off entirely from the remainder of the house without disrupting its normal functioning. In the plan shown, a door in the front hall shuts off the foyer from which the bedrooms have access. A door too, closes the stairway from view, for the reason that the second floor is not finished—though it may be, later.

The kitchen is planned to provide easy access to the dining alcove or to the terrace on the rear, which may be used also for dining occasions. The kitchen is modernly equipped with Murphy built-in cabinets, Standard-Sanitary equipment and Armstrong linoleum.

The houses in Ridgeway Farms are all constructed with a complete cellar, and with exterior walls and ceilings fully insulated with U. S. G. materials. Closets in the houses are lined with Satin-Glo fabric, instead of the usual lath and plaster finish. Each house has an attached one-car garage, arranged not to obstruct cross ventilation in bedrooms having windows on two sides.

Heating is supplied either by means of an Esso oil burner unit or by a G-E gas heater unit, depending on individual preference. The houses are painted in colorful Colonial textures of Naples yellow, old barn red, oyster-white and the like.

These houses may be built with the second floor unfinished and omitting garage, fireplace and other fea-



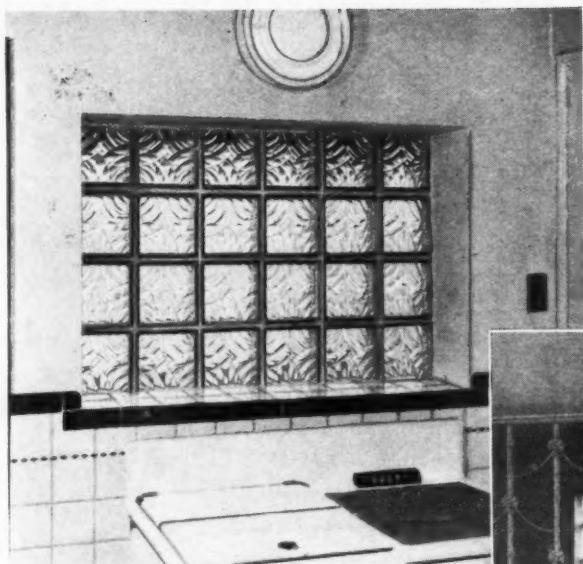
**LIVABLE PLAN** is arranged so that sleeping quarters may be shut off from remainder of house. There is space for additional rooms on second floor.

tures that increase the cost. If constructed with the minimum use of critical metals and equipment permitted under OPM priorities, the cost in many localities could be well within the defense home limit.

Observers of long-term trends in the building industry have pointed out that as a result of OPM restrictions, builders have been forced in many areas to put up smaller and smaller houses with a very minimum of architectural character and charm. They point out that extremely small houses will not prove satisfactory in the long run for workers with large families, and they will quickly grow tired of shoe-box architecture. That is why they urge a restatement of SPAB's restrictive orders to encourage the construction of houses of the type shown above located in attractive surroundings.

## Glass—A Non-Critical Item

DURING 1942, materials which themselves are not on the critical list of needed defense materials and which do not require or, better yet, conserve such materials for installation, should prove increasingly popular in providing homes for national defense. Such an item is versatile glass block. It can be effectively used in all openings where light alone is to be admitted—a fair percentage of home fenestration.

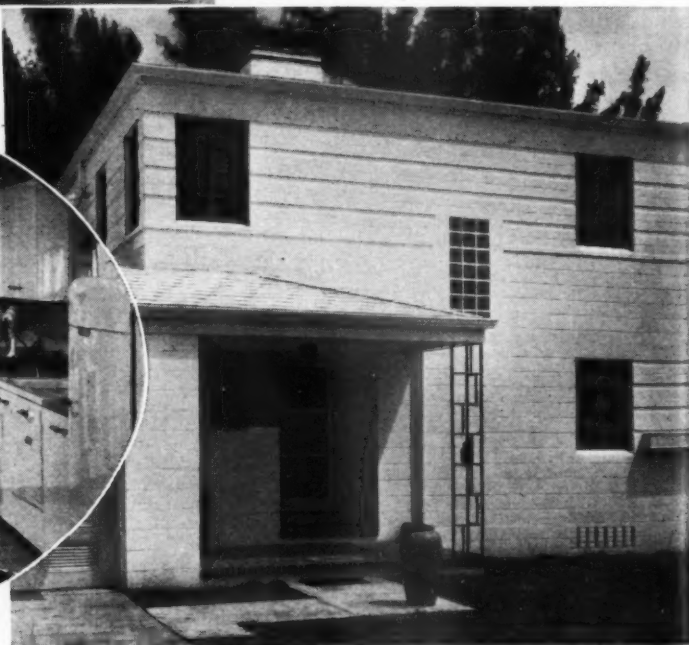


THE decorative quality of a glass block panel is illustrated as used in the kitchen above. At the right, the two panels flanking the fireplace have been installed as a modernization feature in a small home.



THIS Houston, Tex., home (plans shown in December '41 American Builder) has two Insulux block panels flanking the recessed entrance way. Here, light is the only consideration, and due to insulation value, fuel is saved. Below, a block panel lights the stairway in another Southern home.

BELOW, glass block used in Hotpoint's new movie kitchen.





## Livable 5-Room Texas Design That Conserves Time, Labor, Materials

**H**OUSTON, Texas, will undoubtedly continue to be one of the armament centers of the Southwest, and as such, home building operations should continue at a high level during 1942. As in other production centers, smaller housing units occupy the spotlight—houses like the five-room basementless design below.

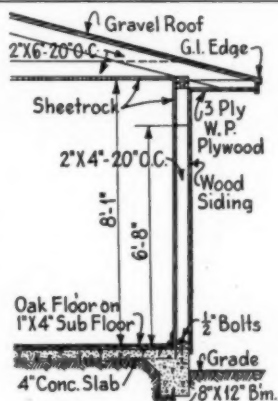
It was planned by Architect H. D. Frankfurt and completed last fall in the Meadowbrook section by Contractor W. J. Christian. Throughout, this house was planned and built to provide comfortable living within its

economical design. Good ventilation with wide eaves protecting the windows for coolness and an attic fan for heating and air circulation placed above the rock wool insulated ceiling provide protection against summer heat and winter cold. A screened porch placed to the rear adds the equivalent of another room for sleeping or lounging.

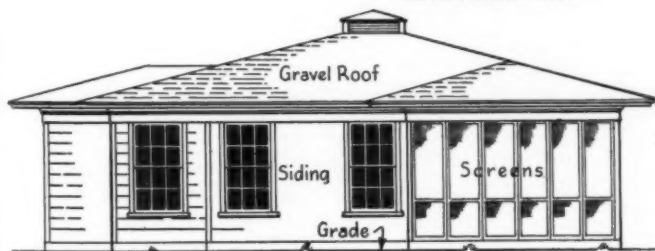
Rooms are cleverly arranged for easy access around a small hall—and passage through kitchen. The dining room is offset at one side but otherwise is really part of the living room, adding an open effect of spaciousness.

Economy of design starts with the reinforced beam and slab base requiring a minimum of excavation, and continues to the simple low pitched hip roof, broken by porch and dining room projections for better appearance. Exterior walls are faced with siding over 15 lb. paper; interior finish, Sheetrock. Interior partitions are placed to frame quickly. Roof is built up with asphalt and finished with crushed limestone; no gutters are used; a G.I. edge runs around cornice; wider soffit is W.P. plywood. Oak floors are laid on screeds set in asphalt.

**WALL** section of this Houston, Texas, home indicates construction economy by use of reinforced beam and slab, frame walls, low pitched built-up roof. Elevation shows modern styling to fit local conditions. Plan allows good circulation. Fireplace in living room is piped for a gas heater. A detached double garage can serve as extra service and storage space.



WALL SECTION



RIGHT SIDE ELEVATION



FLOOR PLAN

**ARCHITECT** Frankfurt has simplified the design elements of this small home which, if cost permitted, might be made more impressive with a full-length bay in front.

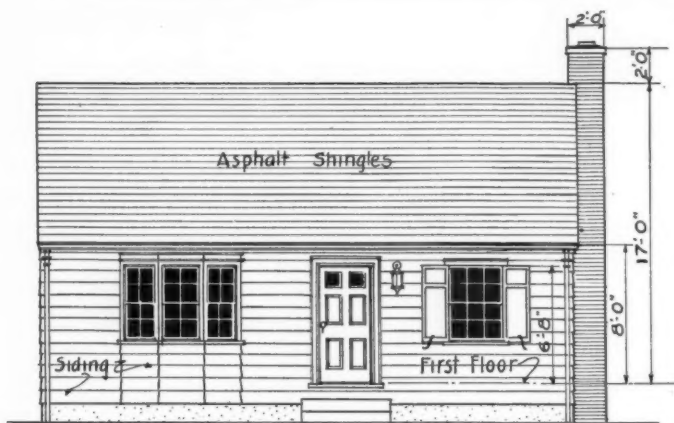






## Well Planned Defense Design

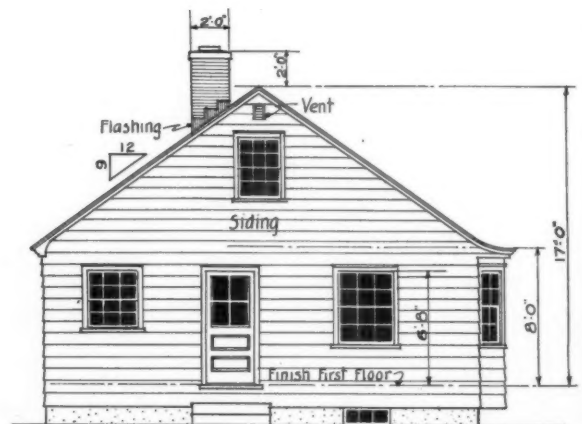
THE attractive little four-room home detailed on this page is one of the most popular and best designed in the group of defense homes being built in Manchester (Conn.) Homes Corporation's Pine Acres development. The story on how this project is being speeded through priority assistance appeared in last month's *American Builder*. This little cottage, painted deep red and having a wide roof overhang, was designed by Architect Joseph E. Kane.



FRONT ELEVATION



FIRST FLOOR PLAN



LEFT SIDE ELEVATION

DETAILED PLANS of popular Pine Acres model in Manchester, Conn., indicate compactness with livability.



## Professional Building Has Income Space in Basement

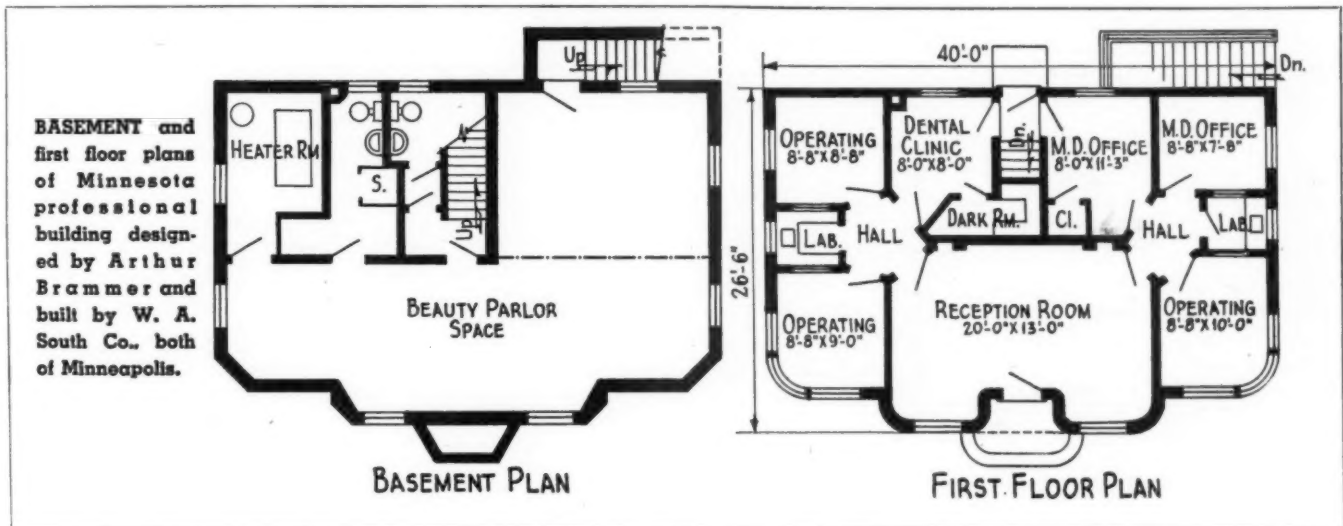
**P**UBLIC health ranking high on the list of national defense requirements, such projects as the professional building illustrated here will be needed in many of the new or expanding communities where war industry is centered. This project has the novel and worthwhile provision for usable space in the basement—here occupied by a beauty parlor—that could provide for additional offices within the same cubage.

This ultra-modern, one-story brick office building was erected in St. Louis Park, a Minneapolis suburb, and strikes a new note in northwest architecture. It was specially built for use by its owner, Dr. J. T. Casey, St. Louis Park dentist. An extra suite of offices, for rental to a physician, opens up on a joint main-floor reception

room. In the basement is the splendidly appointed and completely equipped beauty parlor illustrated below at right.

An outstanding feature of the building is its beautiful reception room. A large mural of a Minnesota harvest scene is empaneled behind the receptionist's desk, ceilings of the reception room, and of the various operating rooms, laboratories and consultation rooms, are finished with Insolite Smoothcote. The moulding about the ceiling of the reception room is made of specially-carved Insolite.

The construction is brick veneer with metal coping and crimped decorative iron bands, 4-ply composition roof and plastered sidewalls.



BELOW, at left, reception room for two first floor offices; at right, view of basement beauty parlor.





## "Salvage Old Structures; Double Living Units"—A Good Defense Slogan for '42

**C**OMMUNITIES hard pressed for living quarters to accommodate the workers of newly built defense industries are cataloguing their unused, or what might be unusable, housing with the purpose of improving or converting such structures to take care of one or more families with the minimum expenditure in time, materials and labor. The potential volume of such work is tremendous and calls for ingenuity of planning and building.

The old home illustrated here and located in the shadow of the state capitol at Montgomery, Ala., represents a good example of such work. The rental income was increased from \$20 to \$70 per month by its recent remodeling into a duplex apartment by A. A. Haardt of Haardt Real Estate & Mortgage Company of that city.

Mr. Haardt estimates that the value of the property was increased by twice the \$1,500 required to convert it into the two apartments. The property is now valued at \$5,500, whereas formerly the lot was worth more than the house.

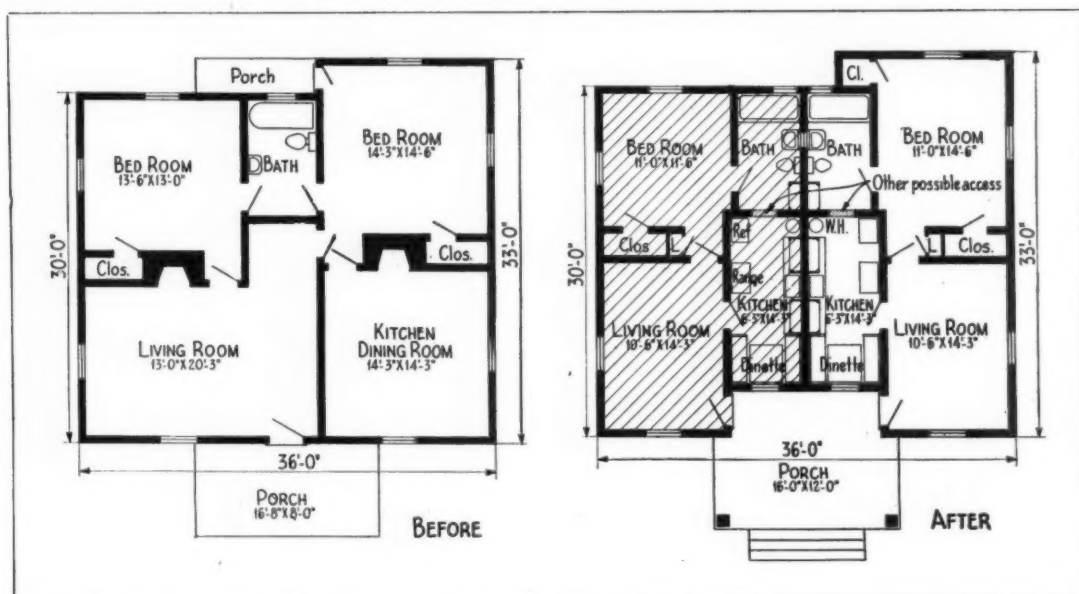
The house was completely redesigned inside; two baths with modern fixtures and linoleum floors installed to replace one old one with dilapidated fixtures. Space was provided for two kitchens in which modern built-in fixtures were installed. Floors were resanded until they looked like new. Automatic hot water heaters were installed in the kitchens.

In the remodeling, two chimneys with grates were completely removed and three radiant heaters installed in each apartment, the one in the bathroom being wall recessed. The chimney space was used for closets. The brick salvaged from the chimney was used for curtain walls, steps and walks.

One interesting feature is the way a setback was made in the front porch, so as to provide a more private entrance to the living room of each apartment. Mr. Haardt is of the opinion this is much better than having the entrance directly in front.



OLD house, after being remodeled into two apartments by Haardt Real Estate & Mortgage Co., of Montgomery, Ala., provides decent living quarters for two families and more than triples income from the property at reasonable cost.



"BEFORE" floor plan looks rather hopeless, but careful planning devised the economical grouping of kitchens and baths in the center of the structure. Recessed entrance allows doors at sides, gives appearance of single family home.

## Make 'Em Last

A few timely suggestions on maintenance and upkeep of power tools

By S. S. Mellor



IN SPITE of hard and rough work, the life of good power tools can be greatly extended by proper care.

**W**ITH portable electric tools for other than strictly defense jobs becoming increasingly hard to get due to raw material shortages and OPM restrictions, it appears timely to make a few suggestions to portable tool users that will relieve the necessity for the purchase of new tools by lengthening the efficient life of the tools they now have.

Reliable tool manufacturers realize it as their duty, now more than ever before, to see to it that tools bearing their names shall continue to deliver satisfactory service just as long as possible without renewal. Such manufacturers will not renege on that obligation. They are, in fact and in action, eager to do everything within their power, at the lowest cost for parts and repairs, to keep their tools on the job delivering the goods.

Any tool that was well designed and built in the beginning need not be discarded or left unused because some

of its parts have become useless through service, accident or neglect. Such parts can often be replaced or repaired at very slight cost and double the life of the tool.

Needed parts or repairs, however, should be supplied or done by either the manufacturer or his authorized service station. This will assure the use of proper parts, and the right equipment for doing the job in the quickest, lowest-cost way, and in many cases the manufacturer will issue a guarantee equalling that given with a new tool.

Regardless of how well a tool is built, however, it is very often subject to abuse and neglect that could be avoided by a bit of care and precaution on the job. An inch of checking, you know, is worth a mile of restoring in getting the best and longest service out of any tool, so here are a few suggestions in that connection.

About the most used and abused tool on any building job is the portable electric hand saw. It will last much longer, and perform much better if you—

1. Connect it only to the proper voltage as stamped on the motor plate.
2. See that current is not more than 10 volts above or below motor rating.
3. Make one certain person responsible for the care of the saw. He should—
  - a. Keep the blade sharp.
  - b. Lubricate properly as often as required.
  - c. Blow dust and dirt from around armature at least once a day. More often if used on gritty material.
4. Use closest suitable electric connection to prevent any danger of drop in voltage due to cable.
5. Send tool to factory or authorized service station periodically for inspection. This will frequently locate minor causes for trouble before they become serious.
6. Keep electric cable as clear and safe as possible from harm. There is a shortage in cable, and allowing it to be run over by trucks, wheelbarrows, etc., will soon ruin it.
7. When putting saw down place it on a dry piece of wood or other material. Mud, dirt and dampness are its enemies.
8. When saw is not in use put it in a secure place where it can't be accidentally knocked off. One drop is often fatal to frame, base, and alignment.

Fortunate is the builder today who has good tools for use on his non-defense jobs, and he should treat them in the same way he would if he thought they couldn't be replaced for a long, long time with tools equally as good.



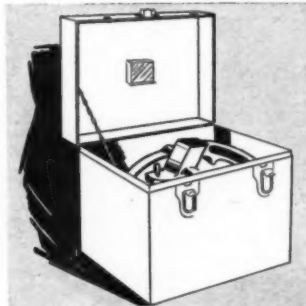
FOLLOW lubrication instructions.



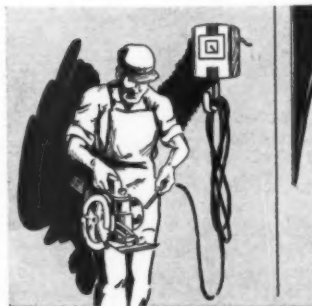
TEST line for proper voltage.



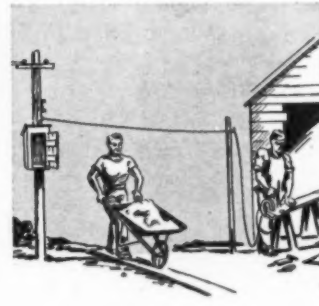
KEEP blades sharp, gum-free.



KEEP saw in case.



BLOW out air passages.



KEEP cable out of traffic.



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**EACH ITEM in this department is numbered for convenience of readers. Please use coupon on this page for requesting further product information or new catalogs. Mail coupon to American Builder Reader Service, 105 W. Adams St., Chicago; or write direct to these manufacturers mentioning your profession, occupation or connection with building industry.**

### NEW TOOLS, MATERIALS AND EQUIPMENT

**AB809** "Protective Construction" tells how to build bomb raid shelters. This is bulletin No. 1 of the "Civilian Defense" series prepared by the War Department. Obtainable from the Superintendent of Documents, Washington, D.C., it is a pamphlet of 36 pages plus 6 map inserts of working drawings. This is timely information for a nation at war.

**AB810** "Substitution of Paint Coatings for Metallic Zinc Coatings" is a mimeographed bulletin issued by the National Bureau of Standards, Washington, D.C. It was prepared by E. F. Hickson, chemist, National Bureau of Standards, and is issued at the request of the Office of Production Management in the interest of conservation of critical materials.

**AB811** "Welding Procedures" is a ring-bound handbook of 56 pages published by Air Reduction, 60 East 42nd St., New York City. This is a thorough treatise giving the readers the full benefit of this company's long experience in welding, brazing, etc.

**AB812** "Safety Steel Scaffolding" is an 8-page illustrated catalog from Mechanical Handling Systems, Inc., 4600 Nancy Avenue, Detroit, Mich. It gives complete details of the company's "Quik-Set" safety steel scaffolding.

**AB813** "Win Against Winter" is an 8-page catalog and handbook from the LaPlant-Choate Mfg. Co., Inc., Cedar Rapids, Ia. It illustrates snow plow equipment for highway winter work.

**AB814** The Detroit Steel Products Co., Detroit, Mich., has issued a new Fenestra commodity catalog covering its line of steel windows and doors—16 pages well arranged and illustrated with installation photographs and drawings.

**AB815** "Extruded Color" is the title of a new 8-page catalog on Wernco extruded plastic decorative trim issued by the R. D. Werner Co., Inc., 380 Second Ave., New York City. Five colors are now available for nosings, edgings, caps, coves and decorative strips.

**AB816** "Zonolite Concrete" is a handbook of 40 pages from the Universal Zonolite Insulation Co., Chicago. It tells all about the extremely light weight insulating building material which is made like ordinary concrete except that specially graded granules of Zonolite insulation are used as aggregates in place of sand.

**AB817** "Flat Top Roof Trusses" is No. 2 of the Blue Ox Series of specimen plans to be built with Douglas fir timbers, as recommended by the engineering department of the West Coast Lumbermen's Assn., Stuart Bldg., Seattle, Wash. This is a valuable collection of data sheets in an indexed, fiber folder.

**AB818** "Sealcon," a line of waterproofing and associated products offered by Sealcon Products, Inc., Minneapolis, is attractively presented in a new catalog of 20 pages and covers. Some interesting and valuable specifications for a variety of problems are included.

**AB819** "Emerson Electric Ventilating and Exhaust Fans" are presented in a very satisfactory manner in a new 16-page handbook from The Emerson Electric Mfg. Co., St. Louis, Mo. A quantity of valuable ventilation data is included along with full particulars of this line of equipment.

**AB820** "Wiring Devices for National Defense" is a new 16-page catalog in red, white and blue issued by Pass & Seymour, Inc., Syracuse, N.Y. Two new items featured are the porcelain two-piece cleat receptacles (Nos. 66612 and 66613). These conform to the construction quartermaster's specification permitting the use of both surface and knob and tube wiring. They are expected to have wide use in defense housing.

**AB821** "Rusco All-Metal Venetian Awnings and Jalousies" is the title of a colorful broadside folder from the F. C. Russell Co., 6535 Euclid Ave., Cleveland. Illustrations show a variety of styles in these permanent year round sun protectors which assure full ventilation.

**AB822** "Romany Tiles" is the subject of catalog No. 9 issued by the United States Quarry Tile Co., Canton, O. It is an impressive portfolio of 40 pages and covers, much of the book being in full color. These glazed wall tiles, being non-competitive with armaments, should find a growing market today both in modernizing work and in new construction.

**AB823** "Roof Protection, a Guide Published by the Asphalt Roofing Industry Bureau to Aid Distributors in Giving the Best in Roofing" is a 28-page handbook and sales guide prepared by the Asphalt Roofing Industry Bureau, 2 West 45th St., New York City.

**AB824** The new Diamond Jubilee catalog, commemorating the 75th anniversary of the founding of the barn equipment industry, has been issued by The Loudon Machinery Co., Fairfield, Ia. It is pointed out that dealers and rural builders are in a key position to aid in the food-for-defense program, through encouragement of the installation of modern barn equipment, a primary factor for greater production.

**AB825** "Eljer Styled Plumbing" is illustrated in a new condensed catalog of 24 pages, issued by the Eljer Co., Ford City, Pa. Lavatories, baths, closets, kitchen sinks, laundry trays and plumbing fixtures for public buildings are included in this very attractive catalog.

**AB826** "Kol-Master Stokers Heavy Duty Models" are presented in a new 20-page data sheet from the Kol-Master Corp., Oregon, Ill. Several new features of this equipment are presented, including automatic combustion control.

**AB827** "Greater Home Comfort" is the title and keynote of catalog No. 1 on Coleman gas floor furnaces recently issued by The Coleman Lamp and Stove Co., Wichita, Kan. It is a handbook of 26 pages, graphically presented, showing numerous installation views.

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(Jan. 1942)

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OCCUPATION\*.....

\*Please note that occupation must be stated if full service is to be given

# Overhead Type Doors Have Been Improved

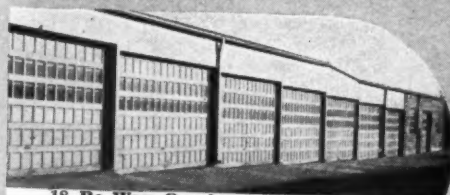
## 5 Ways



Attached Residence Garage with Ro-Way Door.



Syosset Garage, Syosset, Long Island, N. Y., equipped with 4 Ro-Way Overhead Type Doors. Krebs & Schulz, Contractors.



18 Ro-Way Overhead Type Doors were installed in C. D. Kenny Warehouse, Baltimore, Md. Installation by Kirson Construction Co., Contractors.

by **Ro-Way**

— and all 5 Improvements Give Extra Value without Extra Cost

- 1 **"Crow's Foot" Outer Bearing Support**  
Rigidly holds the chain sheave wheel in permanent alignment. No twist . . . no sag to cause friction.
- 2 **"Ro-To Live" Spring**  
A powerful Floating Torsion Spring (used on some models), gives perfect balanced lifting power, and ends side-drift and binding.
- 3 **"Zip-Lock" Adjustment**  
Used on Ro-Way Doors having Twin Torsion Spring Power. Permits instant easy adjustment of spring tension.
- 4 **"Tailor Made" Springs**  
Each spring is individually made for the Ro-Way Door on which it is used. Each is power-metered to the weight of the door.
- 5 **Parkerized and Painted Hardware**  
Ro-Way Hardware and Tracks are given this well known protection against rust and corrosion.  
These five improvements insure added years of service, and smoother, more trouble-free operation.

### Ro-Way Service is Nationwide

Ro-Way Distributors are located in principal cities, where competent installation engineers assure prompt service, and the satisfactory operation of any Ro-Way Door you select for Residential, Commercial or Industrial use.

Write for Free Ro-Way Door Folders,  
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**Ro-Way**  
**OVERHEAD TYPE**  
**DOORS**

*There's a Ro-Way  
for every Door way!*

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Gentlemen: Please send me Free Descriptive Folder and Price List on Ro-Way Overhead Type Doors.

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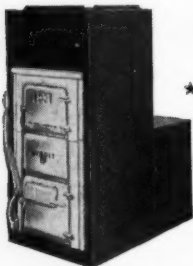
# RYBOLT

## HEATING UNITS



*for*  
**DEFENSE HOUSING**  
*and low cost homes*

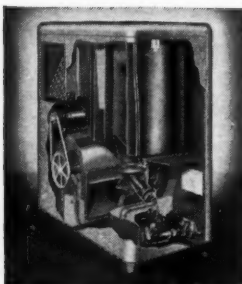
• To modern builders RYBOLT now offers three new Automatic Heating units that are *sized right and priced right* to meet the requirements of Defense Housing and low cost homes. Thoroughly modern and completely equipped, these units are designed to fit into small space without any sacrifice of efficiency. Low priced.



### RYBOLT Series DH-70S DEFENSE HOUSING

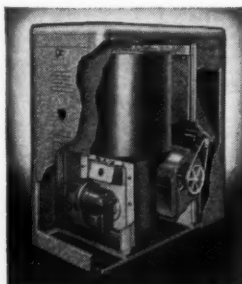
★ ★ ★ ★ Forced Air Unit ★ ★ ★ ★

A very compact unit complete with coal-fired heating element of steel welded construction, and blower. Blower compartment can be mounted on side or rear of heating cabinet. Cabinet handsomely finished in baked enamel.



### RYBOLT Series RS Gas-fired Automatic Heating Unit

Automatically provides comfortable even heat with convenience and economy. Double protection gas valve for safe operation. Handsome baked enamel finished cabinet. Shipped completely assembled.



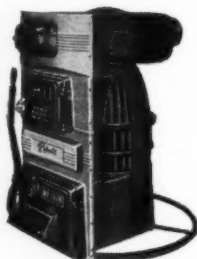
### RYBOLT Series RO Oil-fired Automatic Heating Unit

Compact to fit into minimum space. Completely automatic, quiet in operation. Pull out feature of burner makes it easy to service. Baked enamel finished cabinet.

### RYBOLT Series 1815 18" Gravity Furnace

A compact, small capacity gravity furnace of high heating efficiency and unusual economy. Special features are one-piece feed section and ashpit. Attractive modern design.

*Write for descriptive literature*



**THE RYBOLT HEATER CO.**

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## REVIEW of the NEWS

*Statistics, Associations, Agencies*

### "Patriotic to Build Now," Declares AIA President, R. H. Shreve

OPM OFFICIALS will give the "green light" to all private building which does not require the use of materials and labor vital to the army, navy, defense housing, and the lease-lend program, Richmond H. Shreve of New York, president of the American Institute of Architects declares in a statement made public following conferences with priority leaders on the status of non-defense construction under the SPAB.

The maintenance of a sound national economy demands that architects, engineers and members of the building trade continue their normal business activities as long as such work does not interfere with the needs of government agencies, Mr. Shreve points out. As soon as a non-essential project conflicts with the best interests of the public welfare, however, the work should be suspended without hesitation, he adds.

"The American Institute of Architects has for many months remained firm in the conviction that there should be no drastic curtailment of the building industry, which is the economic foundation of nearly every city and town in this country," Mr. Shreve says. "The Government will release tools and materials for private enterprises as soon as the requirements of the emergency program have been fulfilled and the danger of speculative hoarding eliminated.

"The only way to utilize the skilled services of the men in the building industry who are too old for active military service or government employment is to give them the opportunity to do the local construction work which has always been their livelihood. The building of small houses, garages, and stores in any community supports the local carpenters, masons, plumbers, electricians, hardware dealers, and many other related business men. A blanket restriction against this type of enterprise would undermine the economic structure of the entire country.

"Government officials want the architect and the builders to do all the work that can be done without obstructing the war effort. There is no prohibition against the use of building materials, such as wood, cement, and masonry, and processed goods, such as hardware and plumbing fixtures, if they are already in private stock. The Government does not desire to take nails, roofing, or other finished goods already in the hands of the retail business men.

"On the contrary, it is desirable that the building industry continue buying building materials from the local business men and employing local labor. Otherwise millions of men and women would be jobless. If existing stocks are used up, there is the possibility that the Government will allow the shelves of the small business men to be restocked, providing more materials are available for the manufacture of finished goods after the first rush of government buying lessens to a steady, calculable demand."

Mr. Shreve continues:

"The application of our well-known American ingenuity can surmount nearly every priorities problem. A canvass of local merchants may produce many of the building essentials now considered scarce. Adequate substitutes may also be found. If metal covering is needed for fire doors, a builder might buy the tin roof on some deserted piece of property. One New York architect, lacking steel to reinforce concrete, has purchased an old bridge and is busy utilizing the dismantled girders.

"There is no reason for the building industry to close shop for the duration of the emergency. All the paving, plastering, repairing, and other building pursuits which do not entail the use of vital metals should be carried on with renewed vigor, so that work will be provided for men who otherwise would be unemployed. In some instances building laws may have to be revised to allow the substitution of one material for another more critically needed by the victory program.

"Men and women in the construction trades may continue their peacetime endeavors with full expectation that the Government will endorse every move they make to carry on business as usual wherever and whenever public interests are not being sacrificed."



# Something New For '42

NEW JOBS  
IN  
OUR TOWN  
that can Best be built of  
WOOD

YOUR USUAL RETAIL STOCKS AND LOCAL LABOR CAN DO THESE JOBS

THIS FREE BOOK shows how. Here are pictured actual structures, large and small, in all parts of the country, that have been built of stocks such as you now carry, by labor such as your local contractors now hire. What others have done, your builders can do. Sell WOOD for non-residential construction. Lumber is not a critical material. Take advantage of the present situation to increase your field of operations. Mail Coupon Today!

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Please send me your FREE  
BOOK, "New Jobs In Our  
Town That Can Best Be Built  
of Wood".

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Street \_\_\_\_\_  
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State \_\_\_\_\_

## Homes Started Before Oct. 9 to Get Priority Rating

A BROAD plan to make materials available for completion of privately financed dwellings for which foundations were in place on October 9 will be put into effect shortly, Civilian Supply Director Henderson announced December 11.

A formal order carrying out the program, to be known as Preference Rating Order P-71, was expected to be issued about Dec. 22, by Priorities Director Nelson.

The program covers private dwelling units which cannot qualify for assistance under the Defense Housing Plan—Preference Rating Order P-55.

An A-10 preference rating will be made available for materials necessary to complete homes and apartment buildings now under construction. Assistance will be given only if foundations were completed as of October 9, the date the Supply Priorities and Allo-

cations Board announced its general construction policy.

Officials of the Division of Civilian Supply, who drafted the order, estimated that approximately 70,000 private dwelling units now under construction are in the classification covered.

\* \* \*

## Questions Rent-Control Proposal

IN TESTIMONY before the Senate Banking and Currency Committee on the Emergency Price Control Act, on December 12, Morton Bodfish, Chicago executive vice president of the United States Savings and Loan League, raised the question of whether widespread rent control is either needed or possible of effective administration.

He submitted, in behalf of the League, two amendments to the rent control section of the pending Price Control legislation. They provided (1) that any owner may petition the Administrator to adjust the maximum rent ceiling applicable to his property on the ground that such maximum rent ceiling does not permit the receipt of a fair and adequate rent; and (2) that the term "defense rental area" be confined to those areas where defense activities have resulted in a substantial general increase in the rents for housing accommodations and where a housing shortage has been evidenced by the area's being designated for a grant of priorities or allocations of building materials.

Mr. Bodfish's appearance before the Committee in behalf of 4,000 local cooperative savings and home-financing institutions, who do almost their entire business with owners of single, two, three and four family real estate, followed the recommendation of the United States Savings and Loan League's Committee on Housing which met at the Miami convention of the League the first week in December and proposed the two amendments, which were further supported by a general resolution of the Miami convention.

\* \* \*

## New Priority Rule Calls for Job Signs

OWNERS of privately-financed defense housing, operating with the assistance of Preference Rating Order P-55, are required to make definite statements as to the amounts at which they will sell or rent the properties they construct, in a new application form issued on December 22 by the Priorities Division. They must also agree to erect signs, legible at a distance of 100 feet, on which are lettered the serial number assigned to the project, and sale and rental prices of the family units under construction. The new form calls for certain additional statements, among them being a schedule showing the number of new houses to be started each month, and an agreement by the builder to keep copies of all of his purchase orders to which he applies the rating issued, and to make reports as called for. The new form PD-105 Revised, supersedes PD-105 and PD-105a. It may be used beginning December 22. Beginning January 1, 1942, all applications for priority assistance in the construction of approved defense housing must be made on it. These forms may be obtained from the local offices of the Federal Housing Administration, banks and from building and loan associations.



# The Barcol OVERdoor

## ELECTRIC DOOR OPERATOR



To eliminate the slowness and effort of hand operation, these motor-driven units can be used on sliding, swinging, steel rolling, or overhead doors, and on sliding and swinging gates. Write for further particulars.

## MEETS REQUIREMENTS OF INDUSTRIAL SERVICE

LARGE DOORS in manufacturing plants get the hardest kind of use, especially in these days of accelerating production. A factory door must be able to stand constant use and abuse, always operate smoothly and quickly, and need only a minimum of maintenance attention or cost. *This, on its record, the Barcol OVERdoor will do.* The record shows hundreds of instances of highly satisfactory performance on truck-entrance doors, railway spur entrances, loading platforms, interdepartmental doors, large garage doors, and the like. You can specify the Barcol OVERdoor for these hard-service jobs with certainty of satisfaction.

See Catalog in Sweet's (Architectural)



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SALES, INSTALLATION, AND SERVICE REPRESENTATIVES IN PRINCIPAL CITIES



What DOES happen  
to roofs when  
**ALL HELL  
BREAKS  
LOOSE?**

**H**ow will America's roofs stand up under a rain of incendiaries?

That's a question every man in our vast building industry is asking today.

Your roofing dealer is going to have an opportunity to see a dramatic display at the Barber booth at the Retail Lumber Dealer Association Conventions this year. He will see actual photographic evidence of what happened to the roof of a famous London hotel under bombardment.

Remind him to visit the Barber booth and bring back to you this significant story. It's a story every American **SHOULD** know today!

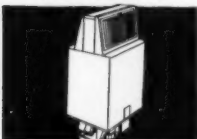
**BARBER ASPHALT CORPORATION**  
BARBER NEW JERSEY



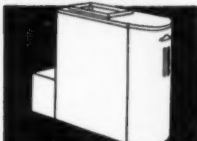
# 6 OIL FURNACES FOR DEFENSE HOME HEATING



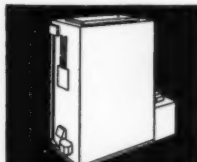
STANDARD REGISTER  
FLOOR FURNACES



DUAL WALL REGISTER  
FLOOR FURNACES



AUTOMATIC "COTTAGE"



MANUAL "COTTAGE"



SIZE A, TYPE AC



SIZE B, TYPE AC

## AN OUTSTANDING UNIT

Eight times out of ten, you can solve one of your biggest problems—which is to provide modern oil heat at low installed cost in defense homes—by using H. C. Little oil-burning Floor Furnaces. C. Edgar Wood, sales agent for 112 small homes at Dundalk, Md., says: "We feel that the (H. C. Little Oil Floor Furnace) is the best heating unit for small homes on the market today... we do not hesitate to recommend your unit to anyone who is interested in heating a small home."

The H. C. Little Oil Floor Furnace now has a record of thousands of successful installations. Here's why: Low first cost. Low-cost installation...compact, factory assembled...saves metal, no ducts...no basement needed. Low upkeep...burns cheap No. 3 furnace oil...compact vaporizing burner, no moving parts. Listed by Underwriters' Laboratories. Manual control or full Automatic operation, electric ignition and Thermostatic control. Single floor register or dual wall register models available. 46,000 BTU or 68,000 BTU output, either model.

## OTHER SMALL-HOME FURNACES

Also designed exclusively for small homes are the other oil furnaces shown. Warm air, basement type, they feature low installed cost and money-saving operation. There are many sizes and models...50,000 BTU to 125,000 BTU output...manual and automatic control...a style for every need.

## MONEY-SAVING BURNER

All units are equipped with the trouble-free H. C. Little Burner...the only vaporizing burner with full automatic operation and electric ignition. Listed by the Underwriters' Laboratories...burns No. 3 oil...no moving parts to wear out...no pilot light to cause soot or carbon. Also available with Manual Control.

ALL UNITS LISTED BY UNDERWRITERS' LABORATORIES

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WAREHOUSE STOCKS and Direct Factory Representatives in Boston, Newark, Baltimore, St. Petersburg, Aurora, Ill., Des Moines, Seattle, Portland, Ore.

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## ON & OFF the RECORD

Views and Comments

by *Structor*

**OMINOUS QUIET**—Since Pearl Harbor there has been an ominous quiet in Washington regarding the building industry. There is reason to fear that it is the calm before the storm—that SPAB may be preparing a drastic ruling curtailing or forbidding non-defense, nonessential construction.

Sullivan Jones, head of the Housing Division of OPM, told a group of New York real estate men the week after war was declared that this is what would happen. He is quoted as saying, "No new construction of any type except that vital to defense will be permitted." Then, apparently just to give his audience something further to worry about, he added that "private industry has fallen down on the job of producing defense housing," and warned that the government would take over construction of defense homes with public funds unless private industry was able to build immediately more of these dwellings.

**WRONG APPROACH**—I hope Mr. Jones is wrong. Such a drastic move looks like the kind of action that might be taken by officials who do not know enough to regulate an industry intelligently. Thus far, SPAB and OPM have not shown that they possess a knowledge or understanding of the complexities of this huge industry. It is time they called in some outstanding spokesmen who could advise them. A building industry council with representatives of groups or associations of home builders, general contractors, material dealers, and manufacturers ought to be set up. The men of the industry are ready and anxious to do everything possible to help the war effort, and a great deal more could be accomplished by enlisting their co-operation than by drastic orders.

**EMERGENCY COMMITTEE SURRENDERS**—Last month we reported with considerable satisfaction the appointment of the "Home Builders Emergency Committee," fortified with some \$30,000 of expense money and sent to Washington to represent home builders in conferring with government housing officials. This committee, in spite of its imposing membership, has evidently decided that its platform was not sound enough to stand up now that the country is at war. In a report back to its sponsors, dated December 16, the Committee practically throws up the sponge, forecasts "an order from OPM prohibiting further construction not considered essential to defense," and reports bargaining with the government to "go along" provided the RFC will dip into the public treasury to finance selected home building stock companies in each important defense center which the members of the Home Builders Emergency Committee will undertake to organize and set up!

Thus, the "emergency" committee emerges, but not with the objective attained, it would seem, which the home building industry sent it to Washington to secure. A fair home building opportunity for any qualified builder, large or small, would be more productive and workable—and this remains a fact, now that the nation is at war, just as truly as it was the fact while we were still thinking in terms of defense.

**MUST SHOW NEED**—All of the building, real estate and material men in every community will have to get together with a united program if they want to get anywhere with defense officials. If your town is not in a defense area you must show that a shortage of housing or other structures exists that threatens the "health, welfare or public safety," in order to get priority assistance to obtain materials. Such claims must be backed by sound surveys and by provable facts. With such a backing of facts, priority assistance may be granted.

**WASHINGTON BUILDERS DID IT**—Builders, real estate men and other building interests of Washington did just that. A program was worked out with Charles F. Palmer, Housing Co-ordinator, in which private builders agreed to build 10,000 homes next year for workers earning \$2,200 or more. A pro-



gram of public housing for lower income workers was also set up with the understanding that when private builders complete their own share of the program they will be permitted to take over part of the rental housing scheduled for construction by the U. S. Defense Homes Corporation.

**MORE RENTALS NEEDED**—It looks as though private builders will have to find a way to build more homes for rent. Most unbiased housing officials admit that private builders have done an effective job on building houses for sale, but they all emphasize that there is a pressing need in many war industry communities for rental housing. Certainly there is an opportunity for private builders in this field. Private capital can hardly find a better type of investment in view of the inflation prospects ahead that such mortgage loans are FHA insurable.

**CONGRESSMEN SPEAK**—The Congressional Record report on discussion of the appropriation of an additional \$300 million for defense housing under the Lanham Act makes interesting reading. It is apparent that some Congressmen have a far better understanding of the part that private building plays in the economy of the country than do the Washington bureaucrats. As passed by the House, the Bill completely froze out Nathan Straus's U. S. Housing Authority as a constructing agency for any of the new defense homes. All of Straus's propagandizing and public criticism of every other housing organization but his own seems to have been of no avail.

As it now stands, the Public Buildings Administration under the new direction of General Philip B. Fleming will do the job.

Members of the Committee on Public Buildings and Grounds who made a tour of public housing projects throughout the country said some caustic things about many of the public housing projects they had seen. They found a strong local sentiment in many communities was against the building of such projects without local approval. As a result, the committee said in its report that private builders should be encouraged to do as much of the defense housing as possible.

**BUILDING CODE CHANGES**—One effect of the shortage of materials and SPAB's critical list for defense housing will be to force changes in local building codes. It's a case of that, or else many communities just won't have any building.

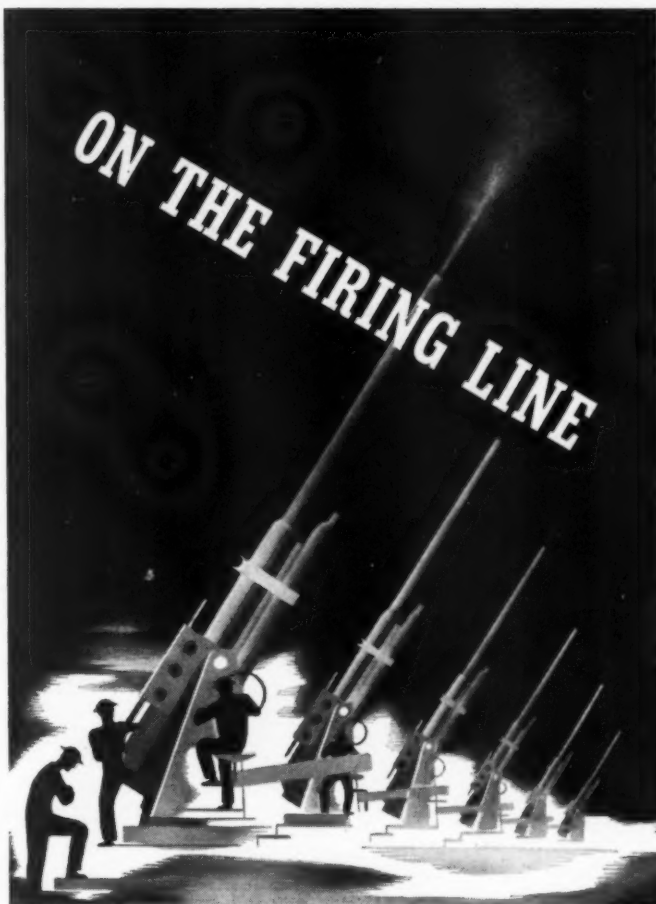
We all know that changing a local building code is a tough proposition, but if the only alternative is a complete building blackout, I believe the codes will be changed. Some of them certainly need to be.

In Denver, for example, the union interests managed to secure adoption of an ordinance requiring at least one brick chimney in every residence. There is also a requirement that each new house shall have one electrical outlet for every 20 lineal feet in each room. In Washington, D. C., a switch is required in every bathroom, and rigid conduit (now unobtainable) in the basement. It may be that the present situation will prove a way to break down unnecessarily expensive codes.

Of course, we should also guard against going to the other extreme and lowering minimum standards so far that such poor houses result that it will either kill off private building or give it a black eye.

**FHA'S "STABILIZED COSTS"**—As an ambiguous way of refusing higher mortgage commitments, FHA officials have been saying they would not recognize increased costs "until they were stabilized." They say it would not be a sound risk. That may be one way of looking at it; but there is also another way of looking at it, and that is that FHA is like an insurance company, and an insurance fund is calculated to protect in bad times as well as good. It does not seem a very satisfactory insurance system that refuses to function as soon as costs increase.

**"DOMESTIC" ARCHITECTURE**—That well publicized, female institution for training future mothers and housewives—Stephens College, of Columbia, Mo.—has just announced a new course in "domestic" architecture. According to the publicity announcement, the course will "educate young women to recognize good and bad masonry, carpentry, plumbing and electrical installation, as well as the principles of heating, insulation and ventilation." That sounds like a big courseful—and if, as I believe, a little knowledge is a dangerous thing, these young female building "experts" will be a menace to their communities.




• Literally on the firing line in the nation's defense effort is the Masonite\* wood-fibre hardboard, Tempered Presdwood.\* For example, this versatile material is being used as a divider and holder in shell carrier cases . . .

to eliminate all movement of shells during transportation. • Because of its unusual versatility, Tempered Presdwood is also "on the firing line" in the high-speed production demanded of defense industry today.

**F**OR MANY YEARS, Masonite Presdwoods have been "on the firing line" in all kinds of construction. Builders have used these all-wood-fibre hardboards because they combine light weight and unusual structural strength. They are grainless and moisture-resisting. Properly applied, they will not warp, chip, split or crack. They have a marble-smooth surface that can be varnished, lacquered, painted, enameled or waxed, lending itself to a variety of modern decorative treatments. Furthermore, these boards can be easily and speedily worked with ordinary wood-working tools.

In these days of national emergency, Masonite Corporation believes that defense needs come first. This may mean that Masonite Corporation and its dealers may not always be able to fill non-defense requirements as rapidly as in the past.



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**PRIVATE BUILDERS GOT RESULTS**—Looking back over what has happened in and to the home building field last year, it seems to me that anyone who knows the real facts must admit that the private builders of the country did a remarkable job building low-cost houses where they were most needed, and in a price range within reach of people most entitled to them.

There are all sorts of figures floating around about the building industry. In my opinion, the best source is Herman B. Byer, who for many years has been Chief of the Construction Division of the U. S. Bureau of Labor Statistics. Over many years Byer has built up the most thorough and remarkable building-statistic-gathering organization in the country. And over the course of years he has built up a broad statistical picture of the industry that no one else can duplicate.

This Bureau now gathers and correlates building permit records from more than 2,800 cities, towns, villages and rural communities. In addition to the routine recording of building permits, this Bureau makes frequent special surveys and studies, in some cases covering complete rural counties or areas, to determine the amount of building that goes on outside of places where permits are required.

More recently Byer's organization has been making a complete record of residential construction in defense areas—a remarkably thoroughgoing statistical job that includes counting the number of new homes built, demolition of old houses and conversions, not only in towns and cities but in unincorporated areas within commuting distance of defense centers. When this study is completed it will throw new light on the industry, and builders should find it of valuable assistance in learning more about their own towns than they now know.

Getting back to the job private builders did in 1941, a Bureau of Labor Statistics estimate indicates that out of the 394,600 dwelling units built in defense areas last year, 327,700 were built by private builders. Only 66,900 were publicly financed. The average cost of the privately built home for the country as a whole was \$5,000. The study shows that 64 per cent of all the nonfarm homes built in the U. S. last year were in these defense areas.



**STREET** of newly completed Precision-Built homes at Ft. Leonard Wood, Missouri.

## Pre-Fab Pre-View

(Continued from page 51)

glued and nailed to the assembled wood frame. This provides a type of construction which is considerably stronger than the conventional job.

All wall sections are fabricated according to the order in which they will be erected. When they are piled, ready for the delivery truck, they are in the reverse order, which makes them come off the pile in the right order at the site. Surprisingly enough the various sizes of sections, regardless of the type of building, operate perfectly on the jig table. Each section is numbered according to its number on the plan, and also the number of the table on which it is made is marked. If any errors should occur they can be immediately traced back to the proper jig so that the crew can be advised in order to prevent recurrence of errors of the same kind. The sections taken off the finishing end of the table are piled at right angles to the table on a platform which is then transported with the load to the site.

When the truck reaches the site, a crane is used to set all the sections for a complete house alongside the foundation.



(Above) The Carter Templet mounted on the jamb, guides the Router for hinge recesses **SIX TIMES AS FAST!**

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Router speed of 18,000 R.P.M. means fast, smooth cutting . . . a perfect fit for every butt. Motor housing screws into base to permit extremely accurate depth adjustment.

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133 Elm St., New Britain, Conn.  
Send me details on **CARTER HINGE BUTT ROUTER** AND **DOOR AND JAMB TEMPLET**.

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**CARTER MONEY MAKING TOOLS**



The fabricated floor sections complete with finished floor are placed and bolted together and then the house is ready for the erection of the wall sections.

The first step is to erect a corner of the rear of the house, then to follow across the rear of the house to and including the next corner. Then the bathroom partition is put in place; and the crew, consisting of two carpenters and four laborers, moves to the next house. Meanwhile the plumber and his crew move in and they get their prefabricated plumbing lines installed in the bathroom walls. At the same time they set the tubs. Then the erection crew comes back and completes the erecting of the balance of the house. As the sections are put in place the carpenter stays on the top and tacks them together prior to the installation of the continuous plates, which lagscrew them together. It is simple to train a crew for this work and once trained they are able to erect the wall section on one of these houses in from 25 to 30 minutes' time.

The roof, ceiling and gable sections are then installed, with the use of a crane, in about an hour.

Two types of plumbing assemblies are used—the water pipe, and soil and drainage. These are fabricated by plumbers in a shop who turn out 25 assemblies a day.

### Pay-Roll Allotment Plan Urged

THE TREASURY Department at Washington is asking building industry firms to recommend to their employees a voluntary Defense Savings "pay-roll allotment plan." Like most efficient systems, it is amazingly simple. All you have to do is offer your employees the convenience of having a fixed sum allotted, from each pay envelope, to the purchase of Defense Bonds. The employer holds these funds in a separate bank account, and delivers a Bond to the employee each time his allotments accumulate to a sufficient amount.

Each employee who chooses to start this savings plan decides for himself the denomination of the Bonds to be purchased and the amount to be allotted from his wages each pay day.

Eight ways are mentioned in which such action will help—both now and later:

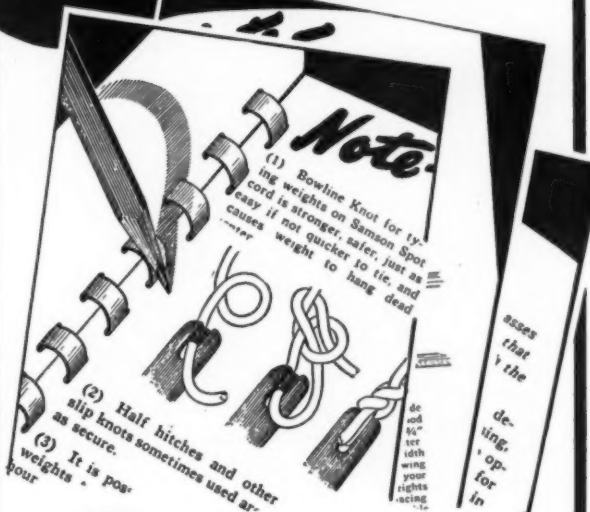
- (1) It gives money now for vital military equipment.
- (2) It gives every American wage earner the opportunity for financial participation in National Defense.
- (3) By storing up wages, it will reduce the current demand for consumer goods while they are scarce, thus retarding inflation.
- (4) As it succeeds in retarding inflation, it will reduce the cost of all materials, including defense materials.
- (5) As it succeeds in reducing the cost of defense, it will reduce emergency taxes.
- (6) It reduces the percentage of defense financing that must be placed with banks, thus putting our emergency financing on a sounder basis.
- (7) It builds a reserve buying power for the post-war purchase of civilian goods to keep our factories running after the war.
- (8) It will help reduce the ranks of the needy during that inevitable period of post-war re-adjustment.

### Additional Defense Housing Areas Named

THE FEDERAL Housing Administration, acting for OPM, has designated 31 defense housing areas in addition to the original list of 338 published in the October 1941 *American Builder*. Within these defense housing areas the government will grant priority assistance on critical list materials needed for war industry homes costing up to \$6,000.

The new list is as follows: ALABAMA, Huntsville, Tuskegee; ARKANSAS, Helena-West Helena, Pine Bluff; CALIFORNIA, Sacramento, Trona; COLORADO, Pueblo; FLORIDA, Sebring; GEORGIA, Moultrie; ILLINOIS, Marion-Carbondale; INDIANA, Burns City; LOUISIANA, Sterlington-Monroe-Bastrop; MINNESOTA, Duluth; OHIO, Ashtabula, Martin's Ferry; OKLAHOMA, Chickasha, Muskogee-Choteau; RHODE ISLAND, Providence-Pawtucket, Woonsocket; TEXAS, Bolinger, Bonham, Coleman, Corsicana, Mission-McAllen-Edinburg, Stamford, Terrell, Uvalde, Waco; WEST VIRGINIA, Wheeling; WISCONSIN, Superior.

# \$5 FOR AN IDEA



## These WE HAVE HAD

We have advertised several times on ideas for use in connection with double hung sash, hung with cord, weight and pulley. Now we want some more ideas for future advertising use — and if you have an idea along this line, just rough it out on a piece of paper and mail it in. For every idea we use we will pay five dollars. If your idea is used, you get five dollars and you will be helping us and others.

The idea is all we want — no fancy drawing or writing. No labels, nothing to buy, open to all. Duplicate ideas will be accepted on basis of first received.

**SAMSON CORDAGE WORKS  
BOSTON, MASS.**



REG. U.S. PAT. OFF.

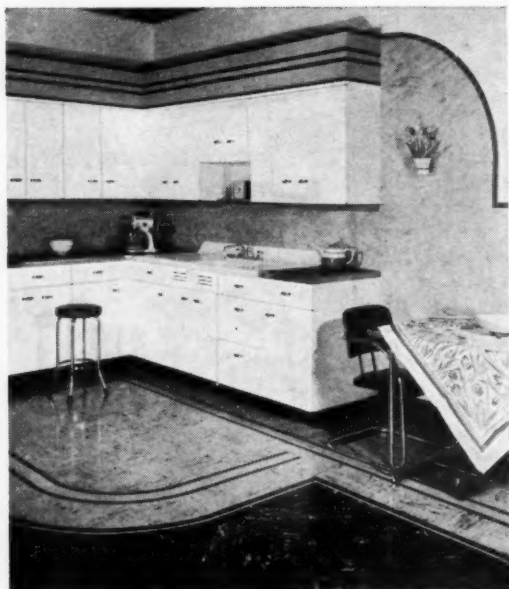
# SAMSON SPOT

**SASH CORD**

# GET A "PRIORITY"

## SALES APPEAL WITH

### TILE-TEX FLOORS and WALLS



Tile-TEX Floors and Walls in a Modern Kitchen

Today's conditions draw up a new set of specifications for both Builder and Buyer. Yet, despite pressure and "priorities," Buyers demand good value . . . and good Builders strive to deliver it. Whatever the Buyer may want in the way of color or decorative originality and long serving durability, Tile-TEX floors and walls provide. Front halls, kitchens, baths and basement playrooms done with Tile-TEX glow with sales appealing beauty.

To the Builder Tile-TEX presents unique and unequaled advantages. Here's a product with low first cost, *plus* speed of installation, *plus* maximum color and design appeal.

There is an approved Tile-TEX contractor near you who can show you Tile-TEX floors and walls in service . . . and show you how Tile-TEX can help you complete and sell new and remodeled homes. Write today for his name and copies of the new Tile-TEX booklets on Floors and Walls.

**THE Tile-TEX Company** CHICAGO HEIGHTS ILLINOIS

The Tile-TEX Company  
Chicago Heights, Illinois

Send me complete literature on the following:

- ☐ "Floors That Endure" by Tile-TEX
- ☐ "Decorative Walls" by Tile-TEX
- ☐ "Flexachrome," an Exclusive Tile-TEX Product

Name.....

Address.....

AB-1-42

## TRENDS in Home Equipment and Building Materials

### Kitchens Planned as a Unit

ONE OF THE MOST striking of current trends in home building, definitely marking the new from the old, is *kitchen planning* and the featuring of the kitchen as the center of interest to the home buyer. In the homes of today, whether large or small, the kitchen is well-located, well-styled and well-equipped; builders have at last recognized the kitchen as the "heart of the home" so far as the women are concerned; and they are taking advantage of this buyer interest by centering attention on kitchen planning and kitchen equipment. This movement will, no doubt, continue and increase.

With the trend toward smaller and more compact homes, the actual space allotted to the kitchen is not large; but every square inch of such space is made to contribute to the total result of inviting, step-saving convenience. Batteries of built-in kitchen cabinet units are preferred; and these clever shop-built cases line



**TREND** in kitchens is toward complete planning to make the most of small space.

the kitchen walls both below and above the sink-top work-level. They take the place of the old-time pantry.

The manufacturers of cabinet units have led the advance for these popular, attractive kitchens. By expert designing and large volume factory production they have brought the "\$1,000 kitchen" to the people for the lowest price-range homes.

In the forefront of this service to home builders has been the Curtis Cos., Clinton, Iowa, producers of the well known Curtis millwork. In a new "Kitchen Planning" book of 32 pages—many in full color—an ingenious means is offered for selecting and arranging the various Curtis units for any desired combination to fit any layout. By means of a series of cut-outs the entire kitchen is visualized.

### "Breakfast Bar" Saves Time and Space

HOMES for a fast-moving generation are styled with many a clever built-in feature, like this attractive "breakfast bar," the latest addition to the line of Kitchen Maid Cabinetry, manufactured by The Kitchen Maid Corporation, Andrews, Indiana.





"BREAKFAST BAR" is latest in Kitchen Maid cabinetry.

Designed especially to provide all the conveniences of a breakfast nook where space is at a premium, this unit is easily attached to the ends and backs of base cabinets, as illustrated. Located within easy reach of sink, base cabinets and wall cabinets, this breakfast bar also assures time-saving efficiency during the early morning rush when every minute counts. And when not in use as a dining unit, the bar provides additional work surface which is always welcomed by the housewife while preparing and serving meals.

Covered with either Temperprest or Prestex, in a variety of colors (the same as the countertop, or in a contrasting color), the surface is always easy to clean and keep clean. Edges are covered with attractive metal moulding . . . and simple, unobtrusive braces hold complete unit firm and anchored to cabinets.

### Plastic Trim Relieves Scarcity

THE INTRODUCTION of a line of plastic trims for linoleum and Linowall installations has been announced by the Floor Division of the Armstrong Cork Company, Lancaster, Pa. Developed and perfected after an extensive research program, the new plastic parts will be supplied in the form of binding strip, cap strip, inside and outside corners, and right and left end stops. Distinctive in design, the plastic line will be furnished in six colors—ivory, gray, blue, brown, red, and black.

In announcing the plastic line, the company said that actual test installations have proved the new trims to be highly practical because of their strength, ease of installation, durability, and color harmony.

### Glass Products Forge Ahead

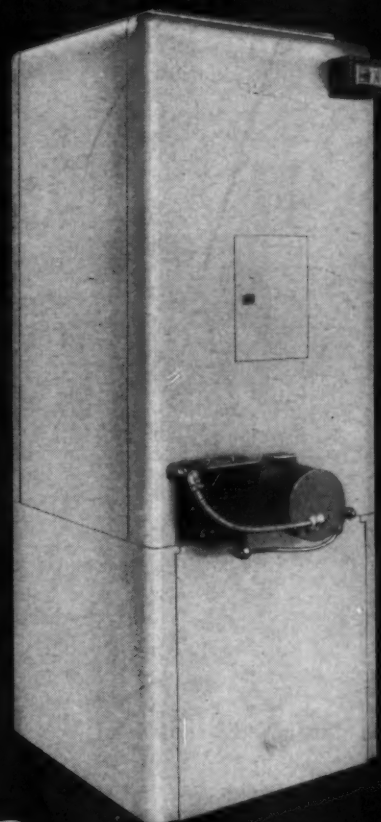
THE PITTSBURGH Plate Glass Company, along with all American industry, is feeling to an increasing degree the rising tempo of the War Program. Peacetime needs have been subordinated to "all-out" war, and the future course of all business will be guided largely by whatever new measures are needed to preserve "our way of life."

Although few of its products can be classed as direct defense materials, a substantial portion of the business of the Pittsburgh Plate Glass Company has shifted to war channels. Both the company's glass and paint divisions are supplying the Government with an increasing volume of products used in the manufacture of war vehicles. New paints have been developed to meet the special needs of a mechanized army. Warplanes are being equipped with bullet-resisting glasses and optical glass production has been expanded.

Means for relieving shortages of domestic materials, principally metals, also have received the attention of glass technicians. The scarcity of some metals has led to the substitution of glass.

# New NORGE

ESPECIALLY DESIGNED  
AND PRICED FOR  
DEFENSE HOUSING



*Immediate  
Delivery!*

Here's a brand-new low-cost Norge oil-fired unit that will meet your heating "specs." Model OD-70 is only 26" square and 67" high, is quickly and easily installed in basement or utility room. Ideal size for \$3000 to \$6000 homes. All controls fully automatic. Two-stage Pressure Vaporizing burner fully approved for all U. S. insured loans including CS-75-39. Beautiful pearl gray baked enamel finish on streamlined cabinet. Backed by two of the greatest names in American industry—Norge—Borg-Warner. Write or wire.

**NORGE HEATING & CONDITIONING DIVISION**

BORG-WARNER CORPORATION

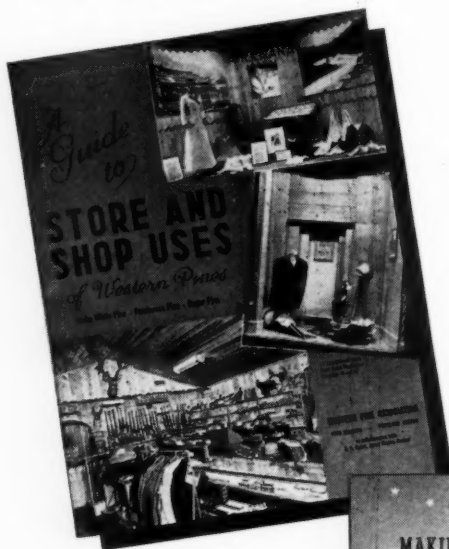
1234 Kercheval Ave., Detroit

**A MODEL FOR EVERY HOME**

*See NORGE before you buy!*

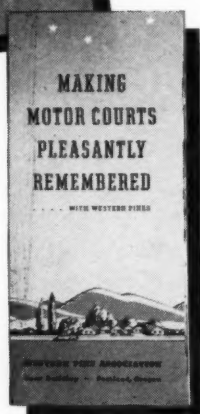
## These two booklets will help you get **BUSINESS in 1942**

- 1 A GUIDE TO STORE AND SHOP USES OF WESTERN PINE.** 16 pages packed with practical ideas for using the versatile Western Pines in building store displays, fixtures, booths, and for many other interior uses.



- 2 MAKING MOTOR COURTS PLEASANTLY REMEMBERED**

A new, beautifully illustrated 12-page folder that shows and tells how effectively and economically Western Pines can be used in motor court construction and modernizing.



**Sample Copies are FREE.** Quantity lots, moderately priced. Every contractor, builder, and dealer should have them. Mail the coupon NOW.

### These Are The Western Pines\*

\*IDAHO WHITE PINE \*PONDEROSA PINE \*SUGAR PINE

Western Pine Association,  
Dept. B-4, Yeon Building, Portland, Oregon

I would like a FREE copy of ( ) "A Guide to Store and Shop Uses of Western Pines," ( ) "Making Motor Courts Pleasantly Remembered."

Name .....

Address .....

## Planned Kitchen Combines Enjoyment and Efficiency

**E**FFICIENCY in the kitchen comes from the scientific arrangement of the electrical equipment, cabinets and work surfaces in the sequence which permits the preparation of meals to be accomplished in the quickest time and with the least effort. It comes from placing each part of the kitchen in its proper relation to the rest, each working center—of which there are three, (1) the refrigerator and preparation center, (2) the sink, dishwasher center, and (3) the range-serving center—properly arranged so that the first operation is followed consecutively by the second and this by the third, effecting a great saving in effort and in time.

Light, cheery colors on the floor, walls, and drapes do much to make the modern kitchen attractive. The streamline electrical equipment, as beautiful in design as it is useful and efficient in



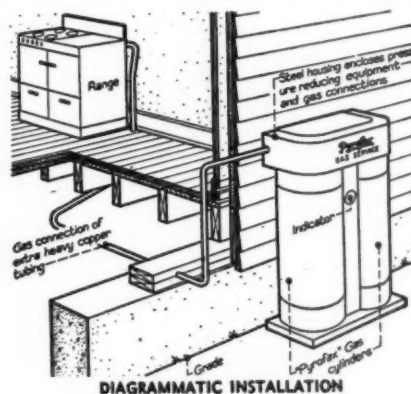
**ALL-ELECTRIC kitchen by Westinghouse Electric-Manufacturing Co., Mansfield, O.**

operation, and the luster of the utensils all add to the beauty of the room. Decorative curtains and modern lighting give to the kitchen the quality of charm which makes its owner proud to show it to her friends.

The planned kitchen has resulted in adding a new "living room" to the home. Parties, no matter how formal at the start, tend toward delightful informality as the evening wears on and almost always wind up in the kitchen. There in the attractive surroundings, the midnight lunch can be served.

## Gas for Cooking in Country Homes

**M**ODERN home comforts and conveniences are following the people out to their new farm and village homes. Gas for cooking and water heating is being supplied in growing numbers by the Pyrofax Gas Division, 30 E. 42nd Street, New York City.



**PYROFAX gas for country homes**

Typical installation of a Pyrofax gas system is shown in the accompanying diagram, which is part of a valuable set of "Don Graf Data Sheets," which this company has had prepared for the guidance of builders and architects. Here is inexpensive, modern comfort for homes beyond the gas mains. The present trend is to utilize all such advantages.

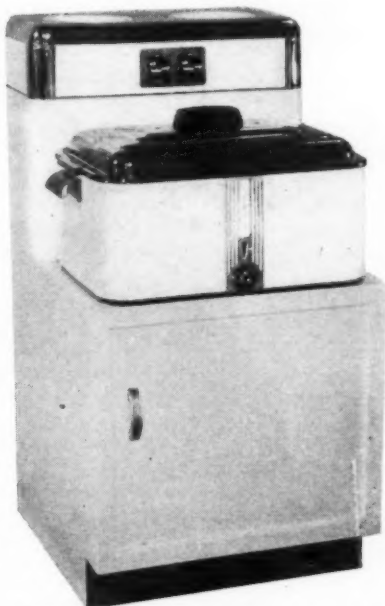


## Attractive Low-Price Kitchen Package Serves Defense Housing Needs

DESIGNED for, and available only for, low-cost housing projects where limited space, moderate price, and portability are considerations is a new electric roaster-hotplate-cabinet combination that is being supplied by the appliance and merchandise department of the General Electric Company, Bridgeport, Conn. This "package," which will do the basic cooking job for a small family electrically and economically, is not available to individual customers as a unit through regular channels of distribution, but may be obtained in quantity orders through G-E distributors at a special price of approximately \$35 per unit, depending on exact specifications and related factors.

Several hundred of the combination units have been sold so far to a housing development of the Glenn L. Martin Co., at Middle River, Md. It is thought that it may be possible on future orders to make available also a 15 gallon electric water heater as part of the combination, since material priority rulings may be obtained for this type of order where sorely needed housing needs are being filled as part of the defense program.

All types of meals may be prepared with the two cooking appliances. The standard G-E roaster has a capacity of 18 quarts, a 1,320-watt heating element, and is thermostatically controlled to maintain an oven temperature of from 150 to 550 degrees. The hotplate has two open-coil surface units and a total rated capacity of 1,650 watts. One 1,000-watt unit is controlled by a three-heat rotary reversible switch, and one 650-watt unit is controlled by an on-and-off rotary reversible switch. The heavy-gauge steel cabinet, finished in white baked enamel, has two top surfaces, the high one at the rear for the hotplate and the front surface for the roaster. It has a single door opening into a spacious storage compartment unless occupied by water heater.

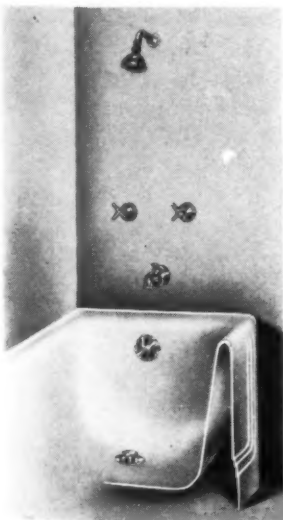


NEW G-E unit for defense housing kitchens.

## Shower Control Improved

THE Speakman Company, manufacturers of Speakman showers and plumbing fixtures, Wilmington, Del., has developed its S-3110 Diamond built-in "Switch-Bak" shower and bath combination

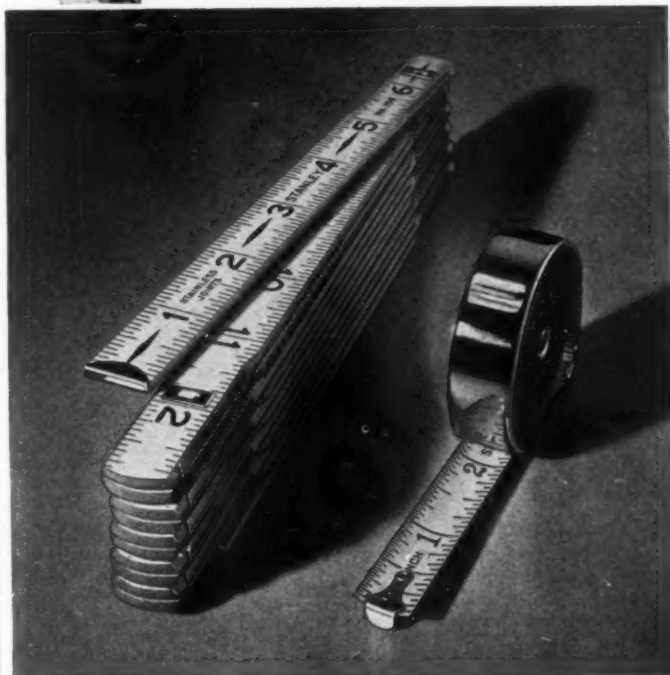
which incorporates the new type Adjusta-Spray (self-cleaning) shower head and "Switch-Bak" nozzle. This "Switch-Bak" nozzle makes the shower automatic. To operate, open the supply valves. When the proper water temperature is obtained through the nozzle, the water can be switched to the shower by lifting the button on top of the Switch-Bak nozzle. The pressure of the water holds the transfer device in the nozzle in this position until the supply valves are closed, when the transfer device drops automatically by gravity to its former position, ready to direct water through the nozzle into the tub.



CLEVER device shifts supply from tub to shower.



GIVE ME A  
STANLEY RULE  
EVERY TIME!



### No. 106 "Green End" ZIG ZAG RULE

New worthwhile improvements! Large, easy-to-read Gothic figures, stainless joints, improved finish! New Stanley white lacquer provides a protective coating that makes any measurement easy to read. 6 foot length, graduated all edges for convenience and accuracy. Also made with figures 1, 2, 3, etc., beginning on inside of rule—No. 106F.

STANLEY  
Trade Mark



### No. 6386 Direct Reading PULL-PUSH RULE

Direct reading feature is handy for inside measurements; red indicator on case points to exact measurement when case and blade butt against work. No chance for error. Flexible-rigid for straight measurements, circumferences and irregular shapes. 6 foot black and white steel blade, nickel plated watch size case.

SIXTY-FIVE YEARS of rule-making are behind every Stanley rule. The approval of generations of skilled craftsmen proves that these Stanley Rules of today have the quality you want in an accurate, long-wearing rule. See them at your hardware store, and write for Catalog 34, which describes the complete line of Stanley Tools.

## STANLEY TOOLS

Division of The Stanley Works, 133 Elm St., New Britain, Conn.

THE TOOL BOX OF THE WORLD

## Plastic Decorative Trim in 5 Colors



IVORY  
table edge  
of new  
plastic.

WERNCO architectural decorative trim, extruded by the R. D. Werner Co., Inc., 380 Second Ave., New York City, is meeting the demands of the industry and maintaining adequate stocks. "Plastiktrim," as it is called, is available in a variety of shapes and sizes with a popular range of five colors that have been accepted by leading manufacturers of various surfacing materials as the standard for contrasting and harmonious color combinations for interior decoration.

Now builders and decorators can freely use contrasting or harmonious colorful trim to stimulate the attractiveness of their work. For kitchens, bars, bathrooms, playrooms, showrooms, or wherever creative originality is desired, this plastic edging and moulding provides interesting color effects in an unusual modern spirit.

Wernco Plastiktrim is distributed nationally through distributors who in turn sell it to mechanics and contractors who will do the actual installation.

## Patterned Glasses Give Remodeled Houses a Lift

BUILDERS and contractors are finding that walls, windows, partitions, decorative and door panels of patterned glasses contribute a new "design interest" to the growing number of homes undergoing remodeling and modernization. With no priority against glass, its utilization for such purposes is not restricted and it often replaces defense materials which are hard to buy. Glass enhances a home far out of proportion to its cost.

The number of spots in a new or old residence where figured glasses can be installed is almost unlimited. Original ideas of home owners and ingenuity of builders will produce individual uses.

A panel in the partition between two rooms where shadowy corners exist will brighten them considerably by merging light of both rooms into the single area. At the same time that it performs this practical function, a patterned glass is highly decorative and requires no maintenance other than occasional wiping with a cloth.

A kitchen has hundreds of highlights when its cabinet doors are glazed with a smart, modern, semi-transparent type of glass like Louvrex, Flutex, or Reedex (Libbey Owens Ford Glass Co., Toledo). With the panels of cupboard doors fitted with a patterned glass, the housewife does not have to play a guessing game when she wants to find something in a hurry. The objects on the shelves have their outlines softened and yet are easily discernible.

In houses where the living and dining room are together, the two spaces will retain their individuality by not appearing to be the same area if floor-to-ceiling panels of decorative glass are placed at some point where the rooms seem to logically divide. Patterned glasses will not block the flow of natural light between the two spaces, yet will perform a stellar job of dressing up that portion of a house. The panels can be installed quickly and with comparatively no mess in existing residences to give them a new "lift."

Contractors can make many old homes more livable and beautiful through the use of a figured patterned glass in still another

# Identical Twins

**Two fine finishing limes—"Ohio" and "Hawk Spread" White Finish—made from the same 99½% pure dolomitic limestone, in the same modern plant under the same rigid scientific controls. If you seek a lime that's of uniform quality, pure, plastic, one that works cool and spreads far, standardize on one of these brands.**

**Free Book**  
Write for booklet describing the remarkable limestone deposit on our property and every step in the manufacture of lime in our modern plant.

**The Ohio Hydrate & Supply Co.**  
Woodville, Ohio

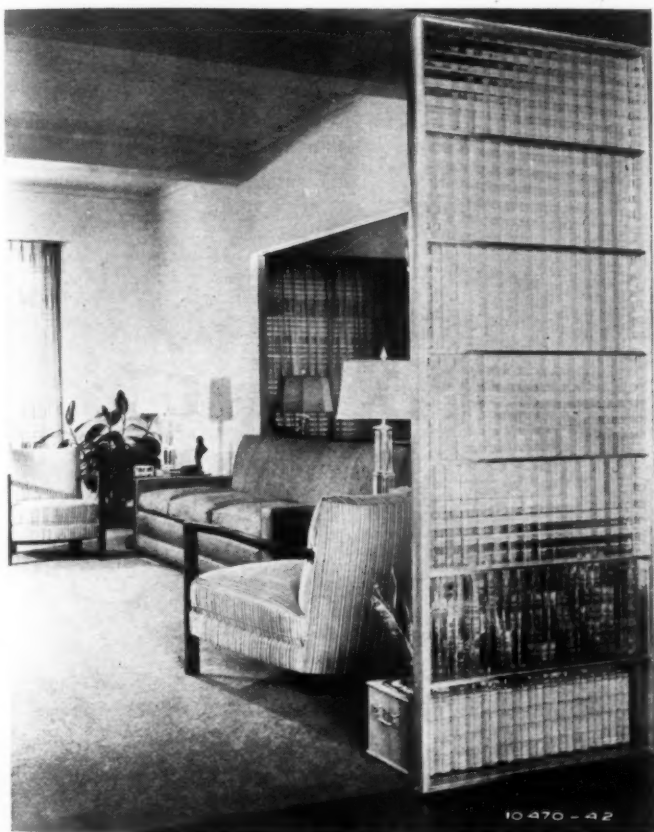
Always packed in easily distinguishable Red Zig Zag Bags. ➔



place. Opening from the kitchen onto stairs to the basement or directly outside, there is a door in most dwellings. By glazing its upper panel with a decorative glass, light is transmitted onto the steps in the former case to make them safer. In houses where the door leads directly outside, daylight is admitted to the kitchen to make it even cheerier.

In some homes there is a room which has windows on one side, perhaps, looking out against the blank wall of a building, or onto some other unpleasing view. With the sash glazed with one of the several figured glasses which transmit light but obscures the exterior scene, the room becomes a more beautiful space for the family and a lovelier room in which to entertain guests.

Glass does not go out of style, and will not lose its sparkle and good looks as years pass. A variety of striking effects can be secured by using pastel colored lighting behind patterned panels or at their bases.



WHEN this New York residence was designed by Joseph Aronson, Inc., a screen of double-glazed Louvrex was installed between the living room and entrance hall with this picturesque result.

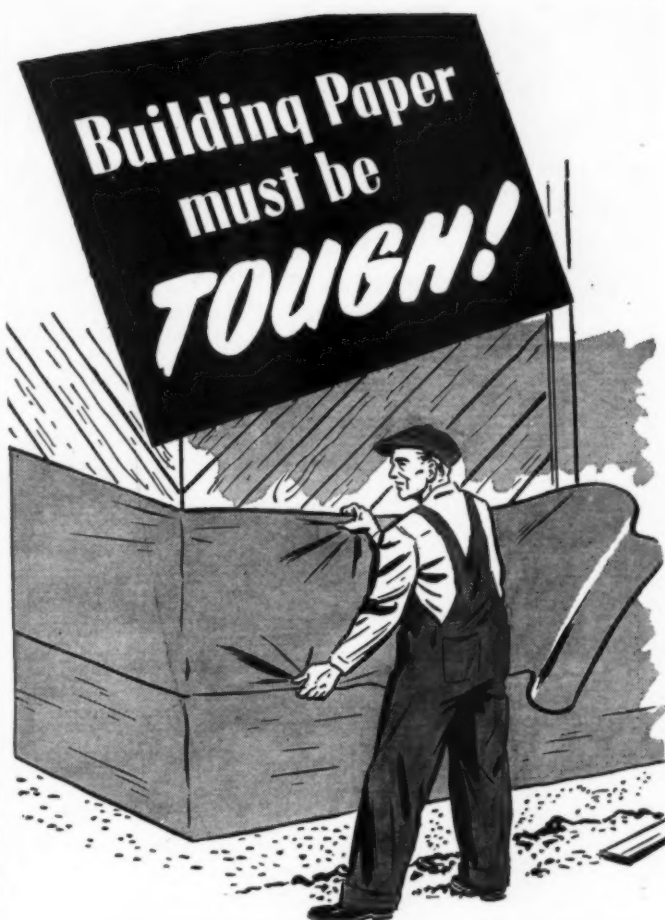
There are four main patterns adaptable to residential use from which builders can make their selection when selling home modernization. Each is available in either clear or satinol finish.

Louvrex has a series of plane-surfaced strips an inch wide which ascend and descend alternately like the slats in venetian blinds. Relatively transparent, Louvrex with satinol processing has greater light diffusion.

The pattern of Flutex is sharper than that of Louvrex, and consists of a series of adjoining convex flutes one inch in width.

Recently introduced patterns are Doublex and Squarex. The former is a double patterned glass having a corrugated design on one surface running at right angles to the fluted design on the opposite side and forming a somewhat more pronounced directional effect than Squarex. It can be used with intriguing appearance in screens to close off a portion of a room as well as for other purposes listed above.

Squarex' double pattern is a combination of corrugated designs on each surface running horizontally on one side and vertically on the other to form a basket weave appearance. It is high in light transmission yet affords privacy by obscuring visible objects.



## SISALKRAFT

goes on the building faster and with less waste

Accidental tears, rips or punctures during application mean wasted time and material . . . and defeat the very purpose for which building paper is used.

SISALKRAFT is TOUGH! Can be pulled around corners—treated rough—put on FAST! One man can handle it, even in the wind, without wasting high priced time patching and piecing. Miles of rugged sisal fibres reenforce the paper and give it amazing strength.

PUT SISALKRAFT on the jobs you build. It assures a tight, unbroken barrier against wind and moisture—and it actually costs no more applied, than light, flimsy papers. Try it . . . make your own comparisons! Full information and sample of SISALKRAFT on request.

**The SISALKRAFT Co.**

205 W. WACKER DRIVE  
NEW YORK

CHICAGO, ILLINOIS  
SAN FRANCISCO



# NEW LOW-COST G-E GAS FURNACES FOR DEFENSE HOUSING

## LOOK AT THESE FEATURES

- One compact unit. Smallest size occupies only 3½ square feet floor space.
- Corrosion - resistant cast iron heat transfer surface assures high transfer efficiency.
- Comes to you in one "package," factory wired and assembled for installation by any sheet metal contractor.
- Underwriters' Laboratories, Inc., approved for installation with only 2 inch wall clearance.

For defense housing and remodeling requirements consider the General Electric series of new gas furnaces ranging from 48,000 to 96,000 Btu per hour output. These units will meet any of the heating requirements that may be encountered in defense housing projects utilizing forced warm air heating. There are other G-E units for radiator or warm air heat, using oil or gas, to meet exact specifications.



WHATEVER TYPE OF HEATING YOU WANT,

TURN TO



For further details look in the Classified telephone directory for the nearest G-E Distributor, or send the coupon.

**GENERAL ELECTRIC**

Division 2111, Bloomfield, N. J.

Please send me data on G-E equipment for

Warm Air Heat — ☐ Oil Fired ☐ Gas Fired  
Radiator Heat — ☐ Oil Fired ☐ Gas Fired

Name.....

Address.....

City.....

County.....

State.....

## Strong Trend Toward Remodeling

THE UPSON Company, Lockport, N.Y., looks forward to 1942 as a year of greatly increased activity in remodeling—a year perhaps unparalleled in this phase of building.

New residential building in non-defense areas of course will be curtailed. In its place will come the modernization of old homes to provide adequate shelter for single families, or apartments for one, two or more families.

This will be classed as defense building because it will provide more homes in crowded areas. In addition, there will be a vast amount of modernization as the result of a need for better homes as relief rolls continue to shrink and families earn larger incomes.

When it comes to rebuilding houses into apartments, adding partitions to provide more rooms, lowering ceilings to conserve fuel, making new rooms out of waste space, or simply converting old, shabby interiors into rooms of charm and character, builders consider Upson Panels as "naturals." Experience of builders with Upson Strong-Bilt Panels, Kuver-Krak Panels and Dubl-Thik Fibre-Tile has proved that these products were made to order for the remodeling market as well as for new construction. They adapt themselves to different types of work and various decorative effects with the utmost facility.

Aside from their strength, beauty and insulation features, Upson Panels have two special advantages from the time-and-money-



THE OWNER of this home wished to have a badly cracked ceiling covered, and at the same time make the long, narrow room appear wider. The Upson Architectural Department designed this ceiling which, by running the panels parallel to the ends of the room, accomplishes the desired effect.



SOMETIMES it is possible to use a giant 8' x 14' Strong-Bilt Panel for the center of a large ceiling with a narrow border around it.



saving angle. First, the method of application with Upson Floating Fasteners which reduces the time required for the installation; and second, their factory primed surface which reduces the amount of time and material required to finish the panels.

The speed factor is highly important to every home owner, whether he is remodeling it for his own use or for a tenant as an income proposition.

Attractive installations of Upson Panels are pictured in the accompanying illustrations. They show what can be accomplished in artistic design as well as sound, practical construction.

### Horizontal Sliding Windows Popular

A NEW window recently put on the market by Farley & Loetscher Mfg. Co., Dubuque, Iowa, is the F & L Horizontal Sliding. In this window the sash slide horizontally in opening and closing instead of vertically. When closed the sash are in line, in the same plane, giving streamlined beauty of casement appearance. Full height ventilation on either or both sides of the sash is a natural result of the basic principle of operation.

The simplicity of construction, installation and operation is primarily responsible for the low installed cost of this window. There are other contributing factors however—standard size screens and storm sash, also stock interior trim, the same as used for double hung windows.

The F & L Horizontal Sliding Window and Frame is completely factory fitted to precision standards. All weatherstrip, guides and fittings, except lock and sash handles, are factory applied. After the frame has been installed in the wall and the interior trim applied in the conventional manner the prefitted sash are merely lifted in position and are ready for operation. The application of the sash locks and handles completes the job.



TO OPEN: Unlock and push sash outward and to right.

### Clear Pine Paneling Grows in Favor

IN LOOKING back over the past year in an effort to discover some trend in the uses of Western Pines for home construction, there is one thing that stands out quite strongly. While the demand for knotty pine paneling continues strong country-wide, we have noticed a definite increased interest and desire on the



CLEAR PANELING of Western Pines as well as Knotty Pine is ever popular in homes and commercial jobs. This attractive installation is in the library of a Portland, Oregon, home.

part of many people for clear pine for paneled walls. Not only is clear paneling of Western Pines being used in many homes, but it is also going more and more into various paneling installations in stores, shops, schools and offices.

The soft texture, the subdued grain and the beautiful light color

(Continued to page 78)



## MAN, I SURE CLEANED UP ON THAT ONE!

I'm making big money sanding floors. The job I just finished gives me that satisfied feeling—I did good work for my customer—worth every cent of it—and there's plenty more jobs where that came from in my work record book—\$15.00—\$20.00—\$25.00 profit a day "ain't hay"!

You can do the same—no experience required—no big business or selling deals to put over—just start out small if you like and get helpers later as demand for your services increases. That's what I'm doing and you should, too. Get that good old feeling of independence by being in something for yourself.

Send in the coupon below to American today for details on this money-making plan—no cost or obligation.

Here's a picture of me and my new American Standard Eight Floor Sander.



### AMERICAN FLOOR SURFACING MACHINE COMPANY

511 SO. ST. CLAIR ST.

TOLEDO, OHIO

Gentlemen:

Send complete details and prices without cost.

☐ I want to go into floor surfacing business.

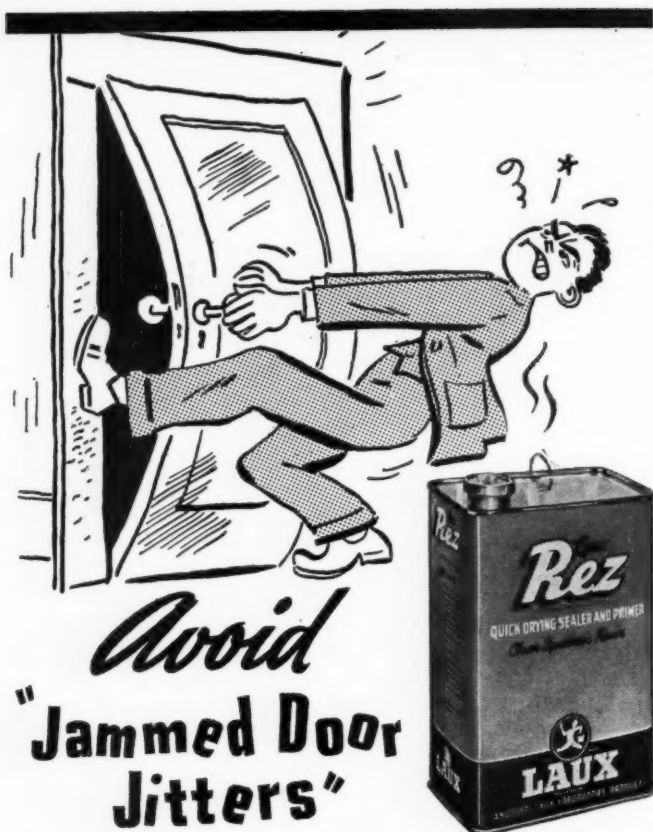
☐ I would use sander in my contracting business.

Name .....

Street .....

City .....

State .....



with Laux **REZ**

TRADE MARK REG. U. S. PAT. OFF.

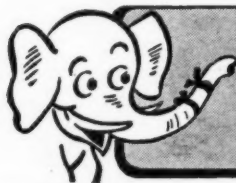
**SWELLING** and **BINDING**, due to moisture absorption in millwork, sash, doors, floors, cabinet work, plywood . . . can now be controlled by first applying Laux REZ.

Laux REZ penetrates into the wood fibre, leaves a tough water-repellent barrier on cell walls . . . and so controls moisture absorption, swelling, grain raising, loss of dimension.

Also, Laux REZ contains a potent toxic that controls dry rot, fungus growth, stain, decay.

Do as thousands are doing today . . . get positive low cost protection . . . demand Laux REZ on wood construction and wood products everywhere.

REZ is applied with brush, spray or dip treatment. Dries quickly and makes a perfect base for paint or stain. Paint, hardware or lumber dealers can supply REZ, or write your nearest Laucks office for complete information.



Don't Forget...  
**REZ is to Wood**  
as  
**Rustproofing is to Metal**

#### LAUCKS WOOD PRESERVATIVES

Dry rot, moisture, stain, decay and other types of wood destruction are controlled by a series of Laucks preservatives for use in large-scale industrial application. Each formulation is designed to do a particular toxic or water-repellent job on siding, plywood, etc. Many meet N.D.M.A. or Western Pine Association requirements. Write today for **FREE** descriptive brochure.

### I. F. LAUCKS, Inc.

Seattle, 911 Western Ave., Div. B Los Angeles, 859 E. 60th St., Div. B  
Chicago, 6 N. Michigan Blvd., Div. B  
Portsmouth, Va., Commerce and Broad Sts., Div. B  
Vancouver, B. C., Granville Island, Div. B

(Continued from page 77)

of all three Western Pines—Idaho white pine, Ponderosa pine and sugar pine—are important factors favoring these woods for clear paneled interior walls. Builders and contractors looking for new materials and new ideas to incorporate into the homes of tomorrow will do well to investigate the uses of the select grades of Western Pines for paneling formal or informal rooms. Clear pine paneling offers a splendid opportunity to the home building industry for something smart and different for interior decoration.

With this thought in mind, we are showing a photo of clear Ponderosa pine paneling in the library of Dr. Andrew J. Browning, Portland, Ore. Millwork by Frank Schmitt & Co. Photograph by Boychuck Studio, 1941.

### Mass Distribution Starts for Space-Saving Door

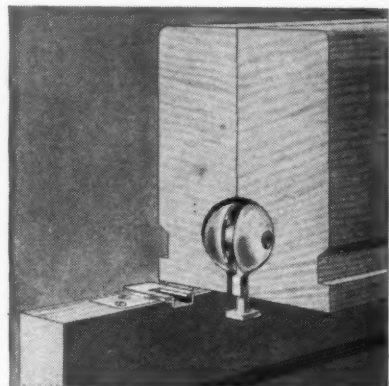
**SAV-A-SPACE** sliding door frames, designed to add as much as 100 square feet of usable floor area to the modern home by eliminating the waste space given over to swinging doors, now are being marketed nationally by manufacturers of Douglas fir doors.

The product, which already has proved its mettle in thousands of homes in widely separated parts of the nation but previously has had only limited distribution, is expected to prove a fast selling specialty for lumber dealers. The complete assembly of door frame with hanger and hardware is sold as a unit by lumber dealers everywhere, just like any door frame. Established sash and door distributors will perform the service of assembling the unit to present it to the retailer as a "package." Stock doors will fit the unit and will be furnished as a separate item from the dealer's stocks, or with the special finish hardware.

It is a minimum cost sliding door frame of simple design intended for mass sale since it is mass-produced of durable Douglas fir by the great door factories of the Pacific Northwest. The frame is built to conform with standard two-by-four construction with all the framework to be concealed by the finished wall; the frames are made to receive standard stock doors of 1 3/4-inch thickness.

While the new type frame for house doors will be sold as a unit, the door itself, the finish hardware and finish trim will be sold separately so the ultimate consumer can choose these exposed parts to match the decorative treatment of the home.

In announcing the decision of the fir door manufacturers to market the Sav-a-Space door frames originally developed by the R. L. Long Co. of San Diego, Calif., W. E. Difford, managing director of Fir Door Institute, Tacoma, Wash., said the fir door men are convinced sliding doors can add so much usable space to homes of functional design that everyone should



**ABOVE:** Cut-away section of the assembly of a Sav-a-Space sliding door shows grooved Douglas fir header with one of the ball-shaped rollers which carry the door.

**BELOW:** Sav-a-Space sliding door assembly as it now is being marketed.



have access to the new type frame for sliding closures. "Nucleus of the installation," Difford explains, "are two patented metal rollers which glide quietly in the cylindrical channel grooved into the header of Douglas fir. The door is suspended from these rollers. The mechanism is simple, foolproof and very inexpensive; no metal tracks are needed."

Biggest market for the product is that offered by small homes and apartments where floor and wall space is at a premium and arrangement of furniture is complicated by swinging doors that take up space and often bang into furniture. The average size hinged house door requires about eight feet of floor space and 21 feet of wall area. Kitchens and hallways often have as many as three to five doors, and living and dining rooms, two or three openings; only sliding doors afford efficient utilization of the full room.



IRON FIREMAN winter air conditioner with coal-flow bin-type stoker.

## 41 Pounds Instead of 375 Pounds

**E**VEN BEFORE there was any hint of a tightening-up of supply for essential materials for defense, millwork suppliers had noticed a definite trend toward the use of mechanical sash balances as preferred construction for double hung windows. The reasons for such a movement were several: elimination of the weight box removed the most troublesome source of air leaks; it permitted also narrow mullions and narrow trim. A solid plank frame was easier, quicker to install and permitted the butting up of insulation right to the frame of the sash itself. And finally, builders found the cost of construction with the highest-grade balances actually less than pocket-and-pulley weight-and-cord construction. Particularly in the case of prefit complete window units was this trend evident, breaking into important percentages a couple of years ago.

Today this trend is greatly emphasized, due to the requirement for conservation of iron and steel. D. M. Lewis, president of Pullman Manufacturing Corp., Rochester, N.Y., explains it this way: "For an average 15-window-opening house job, weights, pulleys and chains weigh about 375 pounds. Pullman balances for the same job would weigh 41 pounds. That saving of 334 pounds per house becomes an important volume when multiplied by the number of houses being built today. Considering the sash weights alone, balances for the 200,000 privately financed defense homes would release 37,500 tons of scrap iron—enough to process 95,000 tons of steel. And that much steel will go a long way in the building of battleships or tanks."

## Bin-Feed Coal Stokers Gain

**A** GROWING trend in home basement equipment is noted by the Iron Fireman Manufacturing Co., Cleveland, O. Its new Winter Airconditioner, which combines the "coal-flow" stoker, furnace, filter, circulator and humidifier, is being offered as a practical unit for new homes. The entire operation is under thermostatic control. Because it is a bin-feed model which automatically feeds the coal from the concealed bin at the right, the basement is kept spic-n-span. Its attractive appearance justifies its presence in the basement playroom where such an arrangement is desired. The Winter Airconditioner can be installed any reasonable distance from the coal bin.

## Marlite HELPS BUILDERS

**Provide Needed Modern Living Quarters for  
War Workers—Immediately... Economically**

War worker's families need additional modern, comfortable housing immediately. Resourceful builders are using Marlite Pre-finished Wall Paneling to provide colorful, efficient kitchens and bathrooms in low cost defense housing and in large old houses remodeled into cozy, compact multi-family living units. Installation requires no special craftsmen. The large panels are easy to handle

and are quickly cut to the required size and shape and applied to old walls or new by a good carpenter. No finishing on job required. Marlite's glass-smooth surface is easy to clean. Available in over 100 popular colors and patterns. Ask your lumber dealer about Marlite or write direct for color illustrated book of Marlite kitchen and bathroom ideas. See Sweet's Section 11.



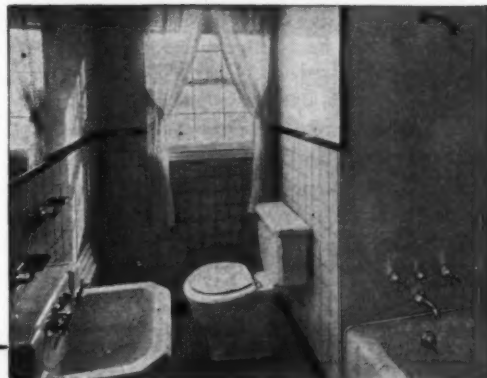
**MARSH WALL PRODUCTS, INC., 13 Main St., Dover, Ohio**



\* Trade Mark Reg.  
U.S. Pat. Off.

**Pre-finished WALL PANELS  
FOR CREATING BEAUTIFUL INTERIORS**

PLAIN-COLORS HORIZONTALINE WOOD-VENEERS • HEATEX •  
TILE-PATTERNS MARBLE-PATTERNS • CARSTENITE • MARSH MOULDINGS



Marsh Wall Products, Inc. • 13 Main St., Dover, O.  
Please send latest literature on Marlite for kitchens and bathrooms.

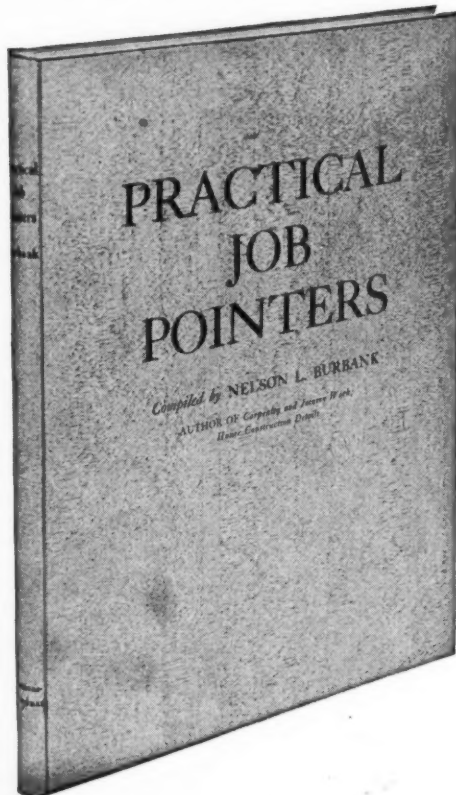
Name.....  
Firm Address.....  
City..... State.....

*New Edition . . .*

## PRACTICAL JOB POINTERS

Compiled by Nelson L. Burbank

Author of "CARPENTRY AND JOINERY WORK";  
"HOUSE CONSTRUCTION DETAILS"



A collection of job pointers, kinks, short cuts and "tricks of the trade" which have appeared in the *Job Pointers* section of *American Builder* and *Building Age* during the past decade, illustrated with drawing, collated and indexed for ready reference. There are some 600 of these improved methods as compared with 369 in the first edition. The format has been enlarged to 9 x 12 inches and a hard cloth binding used in place of paper. This necessitated raising the price but almost any job pointer found to be an improvement over present methods will save enough in time and satisfaction to more than pay the cost of the book.

### Contents

Use and Care of Tools—Workbenches and Attachments—Portable Equipment—Excavations; Foundations; Forms—Sills; Girders; Joists; Sub-Flooring—Exterior Wall Construction; Inside Wall Framing—Exterior Wall Covering—Roof Construction; Bay Construction; Roofing—Cornices and Porches—Interior Wall Covering; Interior Trim—Steps; Stair Construction—Windows—Doors—Closets; Shelves; Built-in Equipment—Finished Flooring—Painting; Finishing—Screen Repairing; Screens—Sanitary Equipment—Electrical Wiring—Scaffolds; Ladders; Hoists—Garage Doors—Short Cuts in Laying Out Work.

130 pages, 600 illus., 9 x 12, cloth, \$2.00

Book Department

**AMERICAN BUILDER and BUILDING AGE**

39 Church Street

New York, N. Y.

## Plywood for Remodeling

THE STRONG TREND to plywood for home modernizing is well illustrated by a job recently put through by one of the executives of the United States Plywood Corporation, New York City, on his own home at South Orange, New Jersey.

The library, which was formerly an open porch, illustrates an attractive open joint treatment on plain oak "Weldbord" panels. The ceiling is constructed of unselected gum "Weldbord" panels, using the "Wedglok" joint.

The boy's room shows an interesting installation of built-in shelves and cupboards, as well as a new type of double-decker bunk. The wood used in this room is Duali plywood.



WELDBORD used in restyling New Jersey home.

## Sash Balances Conserve Metal

THE SHORTAGE of metal for home building is causing contractors to look around for any and all ways to cut down on their iron and steel requirements. They have found that considerable weight can be saved by using Master No-Draft sash balances, developed by the Master Metal Strip Service, 1720 N. Kilbourn Ave., Chicago. The approximate weight of this equipment for one window is less than 4 pounds, and this replaces over 30 pounds of sash weights, pulleys and cords, in addition to saving a considerable amount of labor and eliminating the necessity for box springs.

Originally made from aluminum alloy, this equipment is now made of a certain grade of stainless steel that is comparatively plentiful. This stainless steel is a decided improvement in every respect over the aluminum alloy, and it is another case where the substitute is proving better than the original product.



## Small Homes Heated by Fireplace

A VERY TIMELY offering is made by the Superior Fireplace Co., 1046 So. Olive St., Los Angeles, of working blue prints of four small defense homes, each satisfactorily heated from a centrally placed warm air circulating "Superior Fireplace." One of these designs, in very much reduced size (Design No. 85), is shown here. Note how the air is piped to circulate through this heater and to the several parts of the house.



ONE of the small Defense Homes designed for centrally located Superior Fireplace heat.

A heating plant of this sort uses very little "critical list" material and the cost is low. A typical estimate for one of these superior installations is:

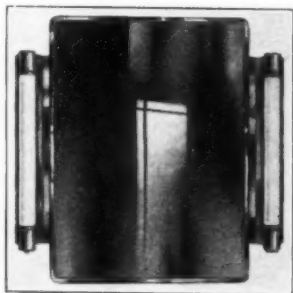
Bricks .....	\$20.00
Flue lining .....	9.00
Lime, sand and cement.....	8.00
Labor .....	30.00
Circulator, registers, fans, angle irons, etc.....	68.00

Compare this with most other types of built-in central heat. You will see why there is a growing use of this kind of home equipment.

## Bathroom Cabinet Has Fluorescent Lights

FLUORESCENT lighting, the sensational new indoor daylight that is without shadow or glare, now brings new beauty and efficiency to the bathroom cabinet, as announced by the Miami Cabinet Division of The Philip Carey Manufacturing Company, Middletown, Ohio.

Fluorescent fixtures are now available for many of the most popular cabinets in the Miami and Carey lines. The fixtures are chromium plated and are so attached to the cabinet as to become an integral part of the complete unit. A convenience plug for curling iron, electric razor, etc., is located in the bottom of the right-hand fixture. These cabinets are completely wired at the factory and are shipped complete with light bulbs.



NEW Miami bathroom cabinet with fluorescent lighting.

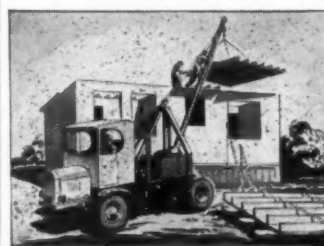
## Tons of Defense Metal Saved

THAT the sash balance manufacturers are doing their share in conserving iron and steel is indicated by figures prepared by the Caldwell Mfg. Co., Rochester, N.Y., concerning the defense housing project of 600 dwelling units recently completed at Turtle Creek, Pa.; 6,444 windows in these houses were equipped with Caldwell sash balances. These required only 12,500 pounds of metal, whereas ordinary cast iron sash weights and steel pulleys for these windows would have required 134,690 pounds.

The trend toward sash balances, the Caldwell people point out, rests also on a substantial saving in labor costs; they estimate that there is a saving of one-third in labor when windows are fitted with these sash balances.



## 500 HOUSES in 64 WORKING DAYS by prefabrication



From unbroken ground to finished houses—in 64 working days. That is the history of a large defense project—just completed with Homasote Precision-Built Construction.

This is one of many projects which are today demonstrating the undisputed leadership of this type of construction in the field of *prefabrication*. All these Projects point the way for you—to sure costs and known profits in tomorrow's housing. When you complete a house in less than three weeks—instead of 90 days or more—you make money at least four times as fast.

Homasote Precision-Built Homes are *quality* homes—built by mass production methods, machine-perfect in every detail, doubly insulated—at costs unapproachable by conventional methods. The 8' by 14' sheets of Homasote—oldest and strongest insulating board on the market—are essential to satisfactory prefabrication. These large sheets eliminate unnecessary wall joints and batten strips, as well as the dangers of

cracking or falling plaster. They provide *extra* strength—positive, tight insulation.

This system of construction permits complete flexibility of design. You can have any size, any type or style of house with equal facility. Speed of construction reduces financing costs, enables you to have houses ready for sale ahead of your competitors. You turn your money faster and thus require a lower initial investment.

Pioneered by Homasote Company in 1935—already used on \$6,000,000 of architect-designed private homes—Homasote Precision-Built Construction is thoroughly tested and proved. At the end of the present emergency period, fabricating plants throughout the country will be ready to serve you. Then, more than ever before, Homasote Homes will represent the utmost in value for the building dollar. You owe it to yourself to find out what this system of construction can do for you. Write today. HOMASOTE COMPANY, Trenton, N. J.



HOMASOTE COMPANY • • • TRENTON, N. J.

Whatever the need for



## SERVICE EQUIPMENT

can supply it!

Safety and modern protection are found in each piece of Service Equipment . . . Both circuit breaker type and fuse type protect electrical circuits against harmful overload, and prevent interruption of service under momentary overload . . . Assembled from standardized molded sections in standardized boxes . . . Pleasingly designed, with fronts finished in pearl gray lacquer.

**There is a Whole-saler Near You**

who carries Service Equipment in stock, for prompt delivery. Write for his name and address, and for complete catalog data.



**Frank Adam**  
ELECTRIC COMPANY  
ST. LOUIS



**Make More MONEY**  
**With Less Effort**  
**In 1942**  
—with an Electric *Mall Saw*—

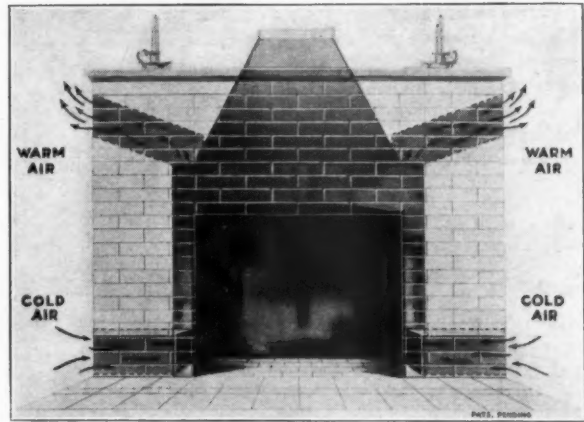
It is no trick to make faster accurate cuts that assure perfect fitting with less back and arm muscle strain and with more profit when you use a MALLSAW. More than this, you can beat the weather and cut costs by ganging and pre-cutting framing members indoors and delivering them to the job ready to be nailed in place. MALLSAWS are light and easy to handle. They are perfectly balanced for safe one-hand use. They eliminate all blade binding and are easily adjusted for depth and bevel cuts. 7 powerful models: Blade sizes 6½" to 12" and cutting capacities 1½" to 4½" meet all requirements. You can see and use a MALLSAW without obligation. Write Today for full information. Use Coupon below.

**MALL TOOL COMPANY** 7737 South Chicago Ave. Chicago, Illinois

Please send free folder on MALLSAWS, MALL RADIAL SAW ARM, MALL DOOR MORTISERS, DOOR PLANES and DRILLS A142

Name .....  
Street .....  
City ..... State .....

## Fireplace Heating Looks Good Today



ARROWS indicate the passage of air through the heating chamber of the Heatilator.

A SMALL home in any moderate climate can be very satisfactorily heated by a modern air circulating fireplace of the Heatilator type, as furnished by the Heatilator Company, Syracuse, N.Y. This equipment combines two functions which have been desired by architects, owners and builders for many years. First, it is a welded steel form scientifically designed to assure perfect fireplace construction and a fireplace which will not smoke. Any mason can lay up the masonry around it quickly and easily. Second, it improves the heating efficiency of the fireplace by adding a new source of circulated heat to the usual radiated heat. Thus the open fireplace becomes a useful as well as decorative feature of the modern home.

The Heatilator is not an addition to the fireplace—it is the fireplace itself. Only the decorative masonry is needed to complete the installation. Complete from floor to chimney flue, it forms the firebox, throat, down-draft shelf, and smoke dome, and includes a built-in damper. The fireplace opening is in correct proportion to the flue area—an unusually large down-draft shelf is provided—and the proper flue size is regulated by the dome. No firebrick lining is required for the firebox.

\* \* \*

## New Frigidaire Range

A STRONG TREND toward the use of less critical materials for home equipment is reflected in an announcement by P. M. Bratten, General Sales Manager of Frigidaire Appliance Division, Dayton, O., in presenting his 1942 electric ranges.

"No major tool changes were necessary," said Mr. Bratten, "but due to the fact that our plans were started several months ahead of time, we were able to incorporate many design and feature changes which the public would like to have, as indicated by our Customer Research activities.

"It has been said that a healthy nation is a strong nation. And, electrical cooking certainly helps to conserve the vital minerals and vitamins in foods. The Frigidaire electric range's automatic controls also help compensate for the shortage in kitchen help and the fact that more members of the average family are working—and thus have less time to devote to cooking.

"Every prospective purchaser," he added, "has naturally been interested in knowing just how materials have been affected by America's defense needs. I am happy to inform them that wherever it has been necessary to make changes, the quality of alternative materials selected is equal to or better than the materials which they replaced."

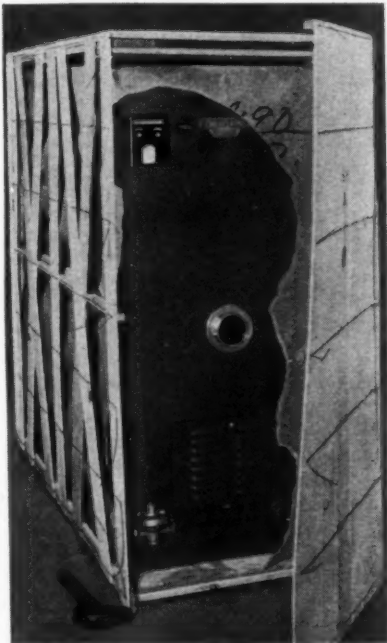


FRIGIDAIRE'S 1942 range. Albert Spalding, violinist, is pictured as chef.



## "Package Units" Sweep the Market

TYPICAL of the present trend in small home heating, the gas- and oil-burning furnaces of the Lochinvar Products Corp., Dearborn, Mich., come to the job as a complete unit all set up, ready to hook onto the service lines and start. Builders find that this simplifies their work, cuts their costs and assures a better operating system. Illustrated is the LG-90 gas fired Lochinvar furnace, partially uncrated.

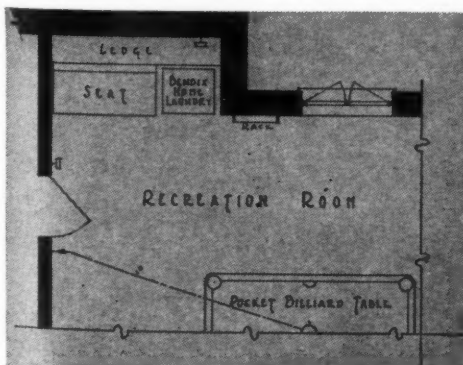


LOCHINVAR furnace comes to the job as a complete "package."

The Lochinvar LG-63 (63,000 BTU register capacity) and LG-90 (90,000 BTU register capacity) represent a new development in the small home furnace. Both of these units are constructed as Package Units, being assembled on a permanent heavy steel base at the factory, crated and delivered to the job ready to be set in their permanent location. The burner and controls, blower and transformer are in place, completely wired, and ready for connection to the house circuit. This feature means big savings in installation cost, insures proper assembly of the furnace, and the elimination of all vibration or noise by having the furnace squarely mounted on a rigid firm base. This base completely seals the bottom of the furnace, preventing any possibility of dust or dirt from the basement getting into the clean air passage.

The Lochinvar furnaces employ sound engineering principles of heat conversion. The return air passes over the radiator or economizer where it is preheated, and from there passes through the fireproof filters to the center opening of the blower. The blower then forces the air into the heating compartment where by means of baffles it is forced to scour every portion of the surface of the heating drum. As the air progresses toward the warm air discharge, it keeps contacting a hotter portion of the furnace. The design of the radiator gives an extraordinary large heating surface, and thus insures the conversion of the maximum of heat liberated by the products of combustion.

## Home Laundry Progress Today—Laundering Is Automatic



BENDIX Automatic Home Laundry in basement recreation room.

FROM COAST to coast home and apartment-house builders are showing increasing interest in adding to value and desirability of their properties by installing improved laundries. For example, in the kitchen of each of the 84 apartments in the two recently-completed units of the Beverly Plaza Gardens at Alexandria, (Continued to page 84)

"Your machine is saving us over \$100 every month", writes satisfied user\*



WALKER-TURNER  
RADIAL  
SAW

\*NAME ON REQUEST

Continues this Chicago user: "Production jobs that took two men 10 hours, now done in 2 hours; dadoing operation formerly needing two men, now done by ONE man in 1/3 the time."

Similar reports come from builders, woodworking shops, lumber yards, etc., telling how Walker-Turner Radial Saws do more jobs in less time than any ma-

chine ever used—often repaying entire cost in several months, through savings. With Walker-Turner Radial Saws, you can saw, rout, dado, shape, miter and tenon wood... cut metals, plastics, tile and practically any material.

WRITE TODAY for NEW FOLDER. Walker-Turner Co., Inc., 1012 Berckman St., Plainfield, N. J.



WALKER-TURNER WOODWORKING MACHINES

RADIAL SAWS • BAND SAWS  
BENCH SAWS • TILTING ARBOR SAWS • JOINTERS • JIG  
SAWS • SPINDLE SHAPERS • DRILL PRESSES • LATHES

## Dumb Waiters & Elevators

Note: In the interest of conservation of metals and motors for National War needs, and where Sedgwick Electric Dumb Waiters and Elevators are not essential—Sedgwick recommends for general use

## HAND POWER

—For—

## IMMEDIATE DELIVERY

### DUMB WAITERS

Capacities up to 500 lbs.

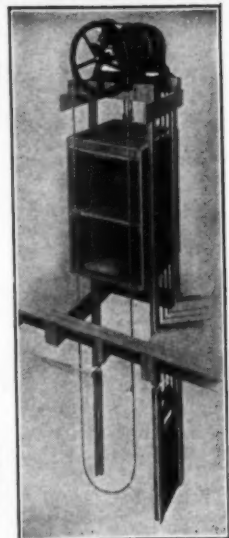
### FREIGHT & SIDEWALK ELEVATORS

Capacities up to 2500 lbs.

### RESIDENCE & HOSPITAL ELEVATORS

For one or more persons

All Sedgwick hand power equipment is designed to engineering standards and precision built for exceptionally long use and freedom from upkeep expense. Because of the special arrangement of gears, counter balancing and brakes developed by Sedgwick, heavier loads are handled with surprisingly little effort.



## SEDGWICK MACHINE WORKS

Member of Producers' Council, Inc. Established 1893

154 WEST 15TH STREET,

NEW YORK, N. Y.

USE  
THIS  
COUPON

SEDGWICK MACHINE WORKS  
154 West 15th St., New York  
Please send catalog. I am interested in:  
☐ DUMB WAITERS  
☐ FREIGHT ELEVATORS  
☐ SIDEWALK ELEVATORS  
☐ RESIDENCE ELEVATORS  
☐ HOSPITAL ELEVATORS  
☐ TRUNK LIFTS  
☐ FUEL AND LOG LIFTS  
Electric or Manual ☐

Name \_\_\_\_\_  
Address \_\_\_\_\_



**DREADNAUGHT  
MV-8 SANDERS**

## Averaged 2,600 Sq. Ft. per day at Fort Custer!

Here are a few excerpts of letter received from A. W. Kutsche & Co., Contractors:

"You will be interested in the results obtained on the floor sanding job which we recently completed at Fort Custer, Battle Creek, Michigan, using three DREADNAUGHT MV-8 Floor Sanders and two DREADNAUGHT SPEED EDGERS . . . 160,000 sq. ft. of new fir flooring . . . work was completed in less than scheduled time . . . work done by each machine per day was in excess of 2,600 sq. ft. We consider this a remarkable record.

"We are very pleased with their high speed performance, fast cutting qualities, class of work, saving in sandpaper, minimum cost of upkeep."

WRITE TODAY for complete information on the easiest handling, greatest producing machine in the floor sanding business, and the remarkably efficient SPEED EDGER.

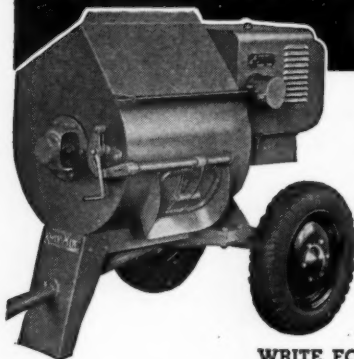
**CLARKE SANDING  
MACHINE CO.**

Dept. A. B. 142

MUSKEGON, MICH.



## NON-TILTING PLASTER-MORTAR KWIK-MIX 6-P

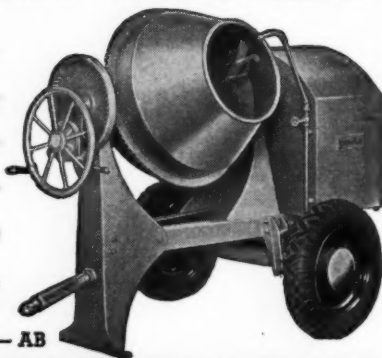


Fast discharge — 7 seconds — no tilting necessary — weighs only 850 pounds — air-cooled engine — V-belt and worm drive.

WRITE FOR BULLETIN NP — AB

## 3½-S TILTING KWIK-MIX

Side discharge — anti-friction bearings — welded construction — discharge either side — spring mounting.



WRITE FOR BULLETIN SD — AB

**KWIK-MIX CONCRETE MIXER CO.**  
PORT WASHINGTON . . . WISCONSIN

(Continued from page 83)

Virginia, stands a gleaming new Bendix—striking proof of the growing trend towards automatic home laundering

Extensive research, national in scope, has proven that the majority of women want the increased ease and efficiency of first floor laundry facilities. The Bendix Home Laundry as developed by Bendix Home Appliances, Inc., South Bend, Indiana, makes such installations practical—whether or not a special utility or laundry room is available . . . because the Bendix eliminates the need for space-consuming set tubs; eliminates wet floors due to water spillage, and eliminates the typical hot, steamy, wash-day odors. Bendix is table high and has a porcelain enamel cabinet top which ideally suits it for kitchen or bathroom installation. It can, of course, be easily installed in the laundry room or in the recreation room.

## Planned Laundry Saves Time, Cost, and Effort

MODERN HOMEKEEPING has declared a new day for the laundry, and for the women who work in it. Gleaming white equipment together with expert planning and arranging of the equipment in functional sequence revolutionizes the old fashioned washing place from a pair of tubs, hitched to the water pipes, and a washer, hooked up to a dangling lamp socket, into the modern work shop . . . the Planned Electric Laundry.

In ordinary home laundering there are three separate jobs that have to be done. The first is sorting the clothes. To accomplish this job in the planned laundry a work center, consisting of a sorting surface and sorting bins, is placed immediately beneath the clothes chute. The bins are on rollers so that they can be easily



WESTINGHOUSE suggestion for a modern home laundry.

rolled over to the next logical center . . . the washing center. This center's equipment consists of the electric washer and rinse tubs, plus storage cabinets for soap suds, blueing and the other necessary accessory materials. The final center is the ironing center at which is located the electric ironer, the hand iron and the ironing board. With this orderly arrangement, completing the entire washing and ironing tasks in less than a day is readily possible and working in bright, attractive surrounding and altogether pleasant atmosphere eliminates the tediousness and distastefulness of the laundry tasks.

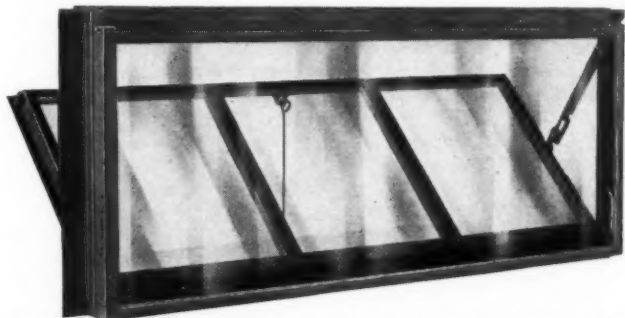
## Steel Basement Windows Improved

CECO STEEL Products Corporation, 5701 West 26th Street, Chicago, Ill., has just announced the new, improved Ceco "Ezee-Action" Steel Basement Window. Retaining the principal features of the window which was introduced two years ago, Ceco has added especially designed angle return fins at the jambs. These new fins provide permanent anchorage and also act as accurate masonry guides. These angle fins also incorporate an efficient method for attaching metal frame screens and storm windows. Lugs permanently attached to the screen and storm window



are dropped into slots in the angle fins, and finger-tip spring latches at the bottoms of the side rails snap easily into place. This new principle eliminates loose attachments. There are no bothersome parts for the owner to lose. The spring latches operate and lock only from the inside of the basement.

Tight weathering is assured by a new angle lug at the bottom of the ventilator which causes it to drop into the correct position when closed.



CECO "Ezee-Action" steel basement window with metal frame storm window attached.

### Greater Interest in Dwelling Insulation

**E**MPHASIS upon conserving fuel for defense needs and the home owner's desire to economize on fuel costs as a partial offset to generally higher living costs, combine to create increased interest in the thermal insulation of homes, both on the part of the

prospective home builder and the owner of an existing dwelling.

Use of glass fiber insulation for this purpose has grown rapidly during recent years as it has demonstrated its advantages from the point of view of the home owner and the builder. Sold under the "Red Top" label by the U.S. Gypsum Company, Chicago, glass fiber insulation is available in a variety of forms, adaptable to all dwelling insulation purposes.

These forms include Red Top Nodulated Wool for insulating attics, floors, and other

PLACING Red Top insulating blanket between studs.

parts of buildings where the insulation can be poured in place; Red Top Insulating Bats and Blankets; and Red Top Granulated Wool for pneumatic application by automatic blowing machines. The granulated wool is widely used for insulating existing dwellings.

It is now generally known that a tight fit between insulating material and studs adds materially to the insulating value. For this reason, Red Top bats and blanket rolls are equipped with a nailing flange which fits tightly over the stud corner, and the rigidity of the material causes it to wedge itself snugly into place between properly installed studding.

### Corner Windows Gain in Popularity

**W**ELL PLANNED new homes of today are showing a very decided trend toward the use of windows as decorative elements for room interiors. The most successful builders study the surroundings of each new home and plan to bring the most delightful views of the outdoors inside—through sparkling windows that frame the changing scenes of Nature's outdoors.

A popular idea for living room or dining room when remodeling or building new is the good-looking corner installation of the type illustrated. This particular design was made by combining six Pella Casement Units with a corner mullion. These

(Continued to page 86)



### THIS MARK MERITS YOUR CONFIDENCE

Bennett fireplace construction equipment may cost a *little* more, a difference that smart builders gladly pay to get *reliable* service on better built products!

### BENNETT FRESH AIR UNIT

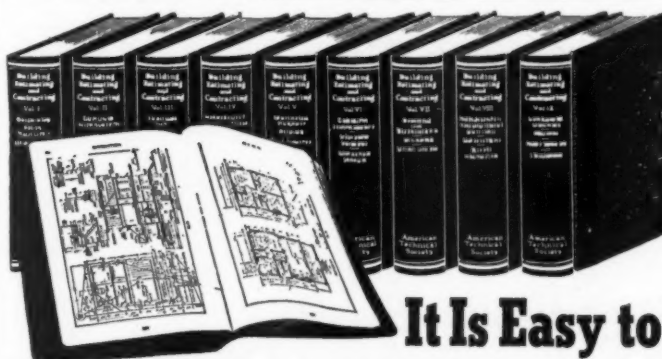
In many cases, particularly in small, tight homes, the Bennett Fresh Air Unit is the only sure way to prevent smoking. And, where application requires a recirculating type unit, again you'll find that Bennett means "best"! Nearby warehouse stocks assure prompt delivery . . . you get the goods *when* you want them!



**BENNETT**  
FIREPLACE COMPANY

142 MARKET ST., NORWICH, N. Y.

Write for  
FREE Catalog!



## It Is Easy to Be a CONTRACTOR

Learn to estimate, to plan buildings, to take contracting jobs, and make money on them. Here are 9 *up-to-the minute* books on building, estimating, and contracting which cover, in an interesting way, the subjects that carpenters, builders, and contractors should know to make the most out of their jobs. Roof Framing, The Steel Square, Architectural Drawing and Design, Estimating, Painting and Decorating, Heating, Air Conditioning, Building, Contracting, Concrete Forms, and other subjects are all well covered. A marvelous encyclopedia for general reference purposes in the building field.

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These books are the most up-to-date and the most complete books we have ever published for those interested in the Building Trades.

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You may ship me the latest edition of your nine big books, "Building, Estimating, and Contracting" without any obligation to buy. I will pay the delivery charges only, and if fully satisfied in ten days, I will send you \$2.00, and after that only \$3.00 a month, until price of only \$29.80 is paid. I am not obligated in any way unless I keep the books.

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Please attach a letter stating your age, occupation, employer's name and address, and that of at least one business man as a reference.

## In War Operations It's the GUTS that Count!



### Speedmatic SAWS...

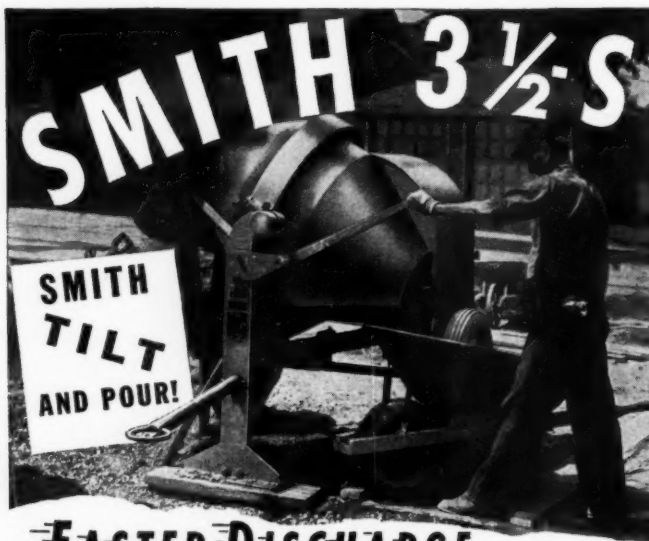
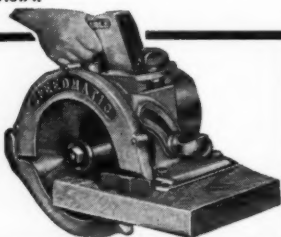
Today, more than ever, dependability—plain "guts"—is the most important thing in a power saw. War jobs don't allow "time out" for repairs—and convenient replacements can no longer be kept in reserve. So construction men who own Speedmatics consider themselves lucky. For every Speedmatic design feature contributes to uninterrupted capacity operation under the hardest conditions...

- ★ **POWER TO SPARE**—Big, oversize motor gives full protection against overloading or stalling.
- ★ **HELICAL GEAR DRIVE**—Smoother-running, longer gear life, 98% efficient.
- ★ **PERFECT BALANCE**—One-hand operation is easy. Operators turn out more work without tiring.
- ★ **WIDE SHOE**—Gives steady support on work. Protects saw from strain. Preserves free-working alignment.

**PORTER-CABLE MACHINE CO.,**  
Representatives in Principal Cities in U.S.A.

1721-1 N. Salina St.  
Syracuse, N. Y.

Ask your Porter-Cable representative (name in phone book) for a free demonstration. Learn why Speedmatic is the first choice on so many "beat-the-date" War jobs. And, for a free copy of "Newest Sawing Methods", drop a post-card to the factory direct today.

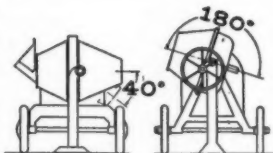


### FASTER DISCHARGE

You merely tilt the Smith drum thru a short 40° arc and let gravity pour out the entire batch... the quickest, most practical and most convenient method of discharge... like emptying a pail. Returning to charge position, the drum again moves through a short 40° arc. More time saved! Contrast this quick, short tilt with the long, time-consuming 180° tilt of all other tilting mixers. Seconds saved with every batch means a BIG saving over a period of years.



There are many other Smith Tilter advantages. Write for Bulletin No. 187.



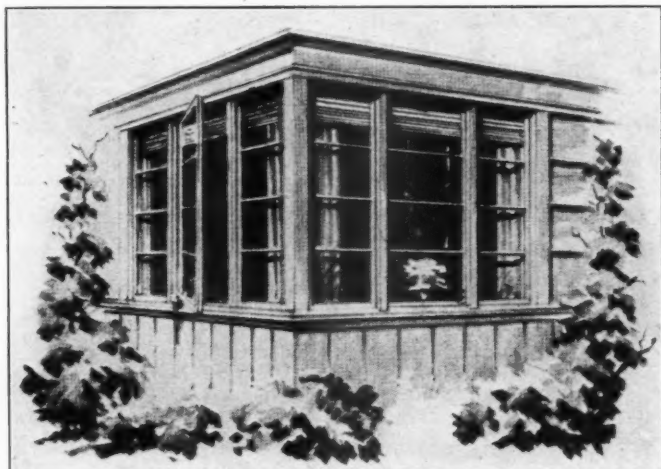
**The T. L. SMITH CO.**  
2849 North 32nd Street • Milwaukee, Wisconsin

MIXER MANUFACTURERS FOR MORE THAN 40 YEARS

(Continued from page 85)

Pella windows are the product of the Rolscreen Company, Pella, Iowa. This is recognized as a modern detail and is growing in favor.

There seems to be no limit to the variety of window arrangements that can be worked out with Pella casements. For instance, in the upstairs of this home, the front bedrooms are given spacious "picture" windows. These are made up of a large stationary center pane with casements on both sides. Downstairs the living room is made distinctive with this corner window unit. This last is a grand idea for other architectural types and will individualize any home remodeling job. Any or all sections can be stationary or specified to open.



CORNER grouping of Pella Casements makes effective detail.

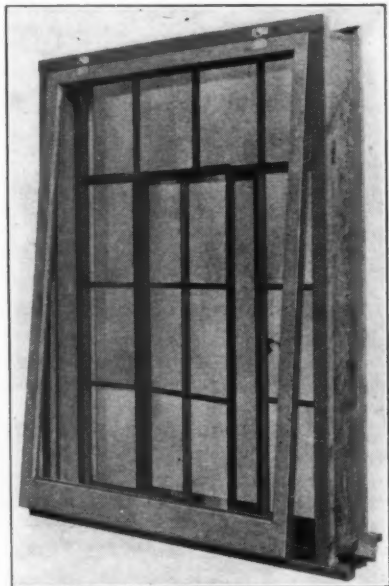
### Wood Casing Adapts Ordinary Storm Sash to Steel Windows

A NEW development in windows is offered by Detroit Steel Products Co., Detroit, Mich.; it is a specially designed wood casing for steel casements which permits the use of an ordinary outside storm sash, just as with wood double-hung windows.

Top-hung, the storm sash may be linked to the casement swing-leaf so that it opens out, at the bottom, when swing-leaf is opened. Provision is thus made for ample fresh air during the winter. Also, the storm sash provides a canopy which protects the interior from snow or rain. Closed, it saves heat, prevents condensation.

The new casing is supplied attached to the casement where local delivery from a Fenestra warehouse is possible. Elsewhere it is delivered cut to length for easy attachment. Outside wood trim is included, inside trim if specified.

While storm sash must be purchased from local dealers, Fenestra will furnish, when specified, hangers for its attachment and hook-and-eye device for linking it to casement swing-leaf.



FENESTRA'S new arrangement for hanging storm sash.

### New Lime to Meet Specs.

A NEW TYPE of hydrated lime is announced by The United States Gypsum Company, Chicago. It is the first lime to meet the federal specification, written to eliminate troubles with finish coats that have been reported in post offices during recent



years. Since the government began its investigation, owners, managers and superintendents of schools, office buildings, hospitals and other types of structures have reported similar difficulties.

An epidemic of falling plaster was called to the attention of the Government by postmasters in different parts of the country. The trouble was occurring on jobs that had been plastered from 5 to 10 years, which added to the complexity of the problem. Upon investigating various jobs it was concluded that unhydrated magnesia in the finishing lime was the cause of the trouble. This condition seemed to occur with all of the commercial hydrated limes on the market. A new specification was therefore prepared and the first lime manufactured to meet this specification is known as USG Hydrated Finishing Lime.

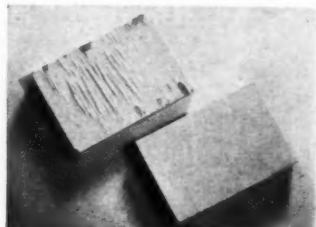
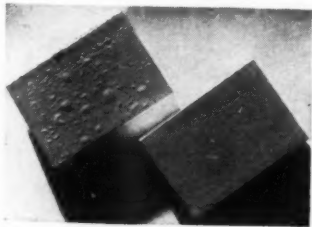
Outstanding property of this new lime, so far as builders and plasterers are concerned, is the fact that it eliminates the necessity of soaking. With other limes, it is necessary to let them soak for some time before using. With the USG Hydrated Lime it is simply dumped into the water in the mixing box, given 15 to 20 minutes to absorb water, and then mixed. It can be used immediately after mixing.

There is no change in gauging procedure or quantities required with the new lime. One part of dry gauging plaster is added to 3 parts of the hydrated finishing lime putty or, to each 12 quart pails of putty add 2 quarts of water and take up all of the water with gauging plaster. Blend the gauging with putty to a uniform smooth mix and apply in the customary way. This new lime is also especially valuable for patching. A patch job can be handled without delay and with much less muss than ordinarily results where the putty must be mixed and let stand over night, or for a longer period.

### Wet Wood and Paint Failure

TREATING of wood in the millwork industry has been considered in the past largely from the standpoint of protection against blue stain and decay in sash and frames. Closer acquaintance with the properties of water repellent toxic treating solutions is bringing out possibilities for use on other millwork items for protecting exterior paint films against blistering due to excessive moisture in the wood beneath the paint.

These photographs show the effect of a "woodlife" treatment in protecting paint films against such moisture under the paint surface on blocks exposed on the test fences of Protection Products Manufacturing Company, Kalamazoo, Mich. The right hand block on each set was treated before being painted. The illustrations to left show the blocks in the early stages of blister formation when water is still present under the paint; the pictures to right show



PAINTERS often have to defend themselves though it's not their fault when moisture blisters and peels the paint coat.

the same blocks during a dry season. The scaling and peeling shown in the latter picture is sometimes thought of as being a result of poor paint adhesion; actually it is a later stage of the blistering condition brought about by excessive moisture.

Since this condition can occur when the very best grades of paint are used it should be understood that paint very often gets the blame for a condition which in no sense is the fault of the paint or of the painter.

### New Finish for Redwood, Cedar, Cypress

ONE OF THE PRODUCTS that has created exceptional attention recently is Breinig Brothers' (Hoboken, N.J.) Durable Woods Exterior Finish, especially adapted for use on the three durable woods—California redwood, cedar and cypress. This finish penetrates the wood deeply—preserves the beautiful natural color of the wood and does not darken appreciably with age. Too, it avoids the "built-up" effect of ordinary treatments and

(Continued to page 88)

### A SMALL DETAIL



..BUT A MIGHTY  
IMPORTANT ONE  
TO ME!

Many new ideas have come into the American kitchen, but none more important or necessary to the lady of the house than the Victor In-Bilt ventilator. Victor In-Bilts are preferred by most Architects, Builders and Home Owners, too, for rapid movement of air, dependability, economical operation, and ease of installation. Write today for new 1942 catalog. Address —

**VICTOR ELECTRIC PRODUCTS, INC.**

Dept. IB-31 - 2950 Robertson Road - Cincinnati, Ohio

**VICTOR IN-BILT  
VENTILATORS**

## BUILDING MAGAZINES PRAISE NEW GARAGE PLANNING BOOK!

Useful... practical!—Better Homes & Gardens  
Most informative!—The American Home  
Fills a long felt want—American Lumberman  
Best of its kind we have seen—American Bldr.

### ONE COPY FREE TO EVERY BUILDER!

"Facts you should know before you build a garage" is the manual you've been waiting for! It gives correct data on garage sizes, location, construction, doors, driveways, paving, workbenches, etc. There are illustrations and diagrams on every page. This 20-page handbook was written by Joseph Weston, nationally known architect and edited by the leading home, building and architectural magazines. The regular price is 10c, but you can get one copy free by using the coupon below.

This garage handbook is published by the Fir Door Institute, makers of the Craw-Fir-Dor. This overhead-type garage door has taken the country by storm. It's fool-proof, light weight, can be installed by any carpenter in less than half a day, presents no servicing problems. The price is as low as \$31 in any U.S.A. jobbing center. See the Craw-Fir-Dor at your dealer today... use it on both new and old garages. Fits any 8' x 7' opening. Four designs.



Written by  
Joseph Weston

• For special residential or industrial installations, write Crawford Door Co., Detroit, Mich., who make a complete line of sectional overhead-type garage doors.

FIR DOOR INSTITUTE,  
1550 Tacoma Bldg., Tacoma, Wash.  
Please send me free copy of "Facts you should know before you build a garage".

Name \_\_\_\_\_

Address \_\_\_\_\_

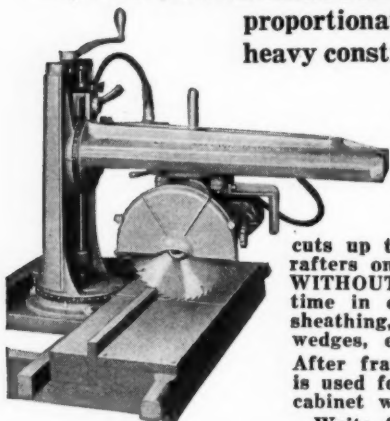
City \_\_\_\_\_ State \_\_\_\_\_

**SEND FOR YOUR COPY NOW!**

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## SPEED—ACCURACY—PROFITS

When you buy The Wallace No. 1 Radial Saw you buy SPEED on the job—you buy ACCURACY in crosscutting, mitering, ripping, dadoing, routing, shaping, fluting, grooving, or cutting tile. You buy substantial PROFITS—\$75 to \$200 on small residential contracts, proportionately more on heavy construction.



### THE WALLACE NO. 1 RADIAL SAW

Cuts up to 4" material. Saws rafters on a production basis, WITHOUT marking. Also saves time in cutting studs, joists, sheathing, cripples, flooring, wedges, etc.

After framing is up, machine is used for making and fitting cabinet work and trim.

Write for latest bulletins.

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# SPEED

## FAST ACTION 3½—5S TILTERS!

High speed mixing — moving. Profit makers for contractors and builders since the beginning of the mixer industry. New, streamlined models, side or end discharge. Full finished roller chain drive. Large, efficient mixing drum. Oversize Timken Bearings. Finger-tip control tilting device.



Wonder End Discharge Tilter in 3½ or 5S sizes. Compact—completely modernized.



Get latest CMC Mixer literature; also catalog showing complete line of Pumps, Power Saws, Hoists, Carts and Barrows.

**CONSTRUCTION MACHINERY CO.**  
Waterloo, Iowa

(Continued from page 87)

affords protection to the surface. Its unusual moisture repellency is another of its distinctive advantages.

Some of the most outstanding homes in the East have been finished in California redwood and treated with Durable Woods Exterior Finish during the past six months. They are really lovely!

The government has used this finish in several housing projects—settlements finished mainly in white and relieved every four or five houses with a natural California redwood house are truly effective.

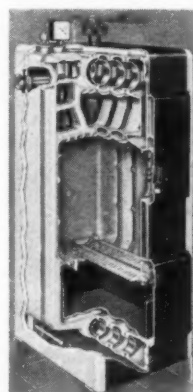
### Compact Heating System for Low Cost Housing

APPROXIMATELY one-fourth the number of houses constructed under the Federal Works Agency supervision for defense workers and heated by radiator systems have been equipped with National Radiator systems, a check-up by The National Radiator Co., Johnstown, Pa., reveals. These systems usually consisted of the No. 1 Series Heat Extractor Boilers and slim-tube Art radiators.

Compactness of design of these small hand, oil and gas-fired boilers yields a greater capacity output than would be expected from their appearance. This design, however, permits installation in small utility rooms of basementless houses.

Interior design makes this boiler of service for present demands and also for the future. If the hand-fired type is installed, the home owner, at a future date, may easily convert it to a gas, stoker or oil-fired boiler. The No. 1 Series Heat Extractor Boiler has ample combustion space, extended heating surface crown sheet and long multiple flue ways to absorb the maximum of useful heat before exit to the chimney.

This boiler can be obtained without or with a colorful jacket. Usually, when purchased without the jacket, the boiler is located in the kitchen. Radiant heat from the boiler's external surface is then used instead of installing a radiator.



**NATIONAL'S** heat extractor boiler.

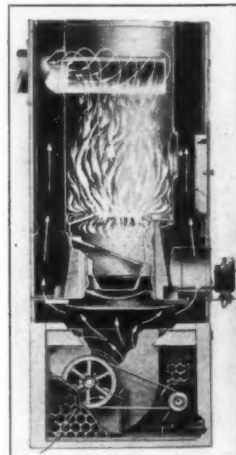
### Duo-Therm Oil Heaters Improved

WITH THE MODERN smaller home looming as the most important construction unit in 1942, Duo-Therm Division of Motor Wheel Corporation, Lansing, Mich., is emphasizing its line of low cost oil burning utility furnaces especially designed for this type of building. Adaptable to both basement or utility room installations, the Duo-Therm units are said to successfully fill the need for a modern automatic oil burning central heating plant, priced within reach of the average four or five room home.

Available in both manual and thermostatically-controlled models, the furnaces are offered in two sizes—50,000 and 75,000 BTU output. All models are equipped with Duo-Therm's Dual Chamber burner with complete flame control. This feature, plus the quick-transfer steel heat chamber and extra-sensitive thermostat, is said to result in straight line temperature control which eliminates cold floors and stratification.

Other features include a built-in "waste stopper," double casings, large capacity humidifiers, attractive tailored outer cabinets finished in handsome red fleck enamel, latest type controls, automatic draft regulators, rigid braced construction details, and simple "package" installation.

Where forced circulation is desired, two types of filter-blower units are available—one of which may be installed beneath the base of the unit, the other at the rear or side.



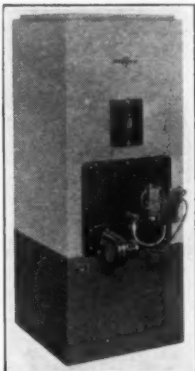
**DUO-THERM** utility furnace.



## Chrysler Airtemp Has Low-Cost Oil Furnace

A NEW ECONOMY line of oil furnaces, designed to meet defense-housing requirements, is announced by Airtemp Division, Chrysler Corporation, Dayton, Ohio. The new Vapor-flame furnace is offered in three models, all rated at approximately 60,000 BTU output and priced for installation in homes costing \$6,000 and under. These low-cost, automatic heating units, according to the announcement, are now available at all Airtemp dealers.

All models provide automatic heat. Model EO-6 is built for gravity air circulation; Model EO-7 is equipped with a humidifying pan and a propeller type fan for forced circulation of moist, warm air; Model EO-8 has a centrifugal fan, air filter and humidifying pan for complete winter air conditioning. Basically the three furnaces are alike. The additional equipment incorporated in Models EO-7 and EO-8, and which can be added for only a few dollars extra, is contained in an interchangeable section forming the base of the cabinet.



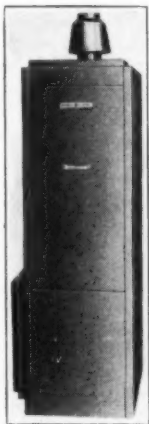
AIRTEMP oil burner for low cost homes.

## New G-E Low Cost Heaters

DESIGNED specifically to meet the heating requirements of defense housing projects, two new types of compact, easy-to-install heating units are planned for production sometime in 1942 by the Air Conditioning and Commercial Refrigeration Department of the General Electric Company.

First of these types will be a new line of packaged gas-fired warm air conditioners and a packaged oil-fired warm air conditioner. These units will be shipped factory wired and assembled, will require a minimum of time, labor, and expense to install. It will be possible to place them almost anywhere in a house—in the basement or on the first floor. Permission has already been obtained from the Underwriters' Laboratory to make close quarter installations with clearances as low as two inches at the side and back, 16 inches in front. In small buildings where every inch of livable space is at a premium this is a decided advantage as it will permit the units to be installed in out-of-the-way corners, hallways, or even closets. Models in the gas-fired line will come in three sizes with output ratings ranging from 48,000 Btu/hr to 96,000 Btu/hr; the oil fired conditioner will have a rating of 100,000 Btu/hr.

For the stove-heated home, the oil burning, vaporizing type of space heater will be brought out in six different sizes to match any heating requirement.



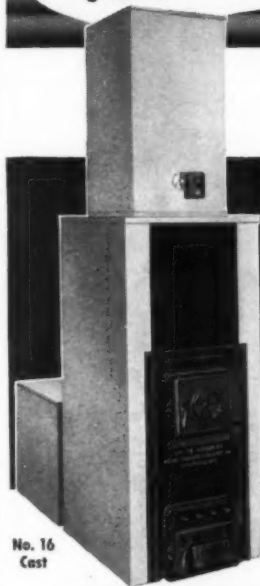
G-E gas burning Furnace.

## Odor Removed from Paint

A NEWLY IMPROVED paint, designed for use in stores, plants, office and apartment buildings, hotels and institutions where odors from conventional paints are offensive to customers, workers, guests or patients, has been announced by American-Marietta Co., 43 E. Ohio St., Chicago. Not perfumed but actually de-odorized before being canned, it makes possible painting in winter or summer without discomfort. Windows may be kept closed while the paint is being applied. The product sets in three hours, and is completely dry in 12 to 15 hours.

Designated Valdura No-Odor paint, it may be used on plaster, wall board, wood, cement, brick or metal, and is available in flat, egg-shell and gloss finishes. Coverage is 700 square feet to the gallon, with hiding power that makes possible one-coat jobs in many applications. Of heavy consistency, ease of brushing speeds application 10 to 25 per cent above conventional wall paints. It may be applied with a spray gun when cut with one pint of the proper thinner to one gallon of paint. Flat and egg-shell finishes may be stippled.

## SPECIALLY DESIGNED FOR DEFENSE HOUSES



No. 16 Cast

★ Four new Moncrief heating units afford choice of forced air or gravity circulation, cast or steel heating element. Quality made, fine appearing, efficient. Sized and priced to meet defense housing specifications. Send for new illustrated circular.

Illustrated here is the new No. 16 forced air furnace with cast heating element. 60,000 B. t. u. capacity. Made also with steel heating element. Two other types also available.

THE HENRY FURNACE & FOUNDRY CO.  
3479 E. 49th St. • Cleveland, Ohio

## MONCRIEF CAST and STEEL FURNACES

## PLANNING TO REMODEL OR BUILD?

**Send 10¢**  
FOR NEW PORTFOLIO OF  
LOVELY HOME PHOTOS!

It's easy to give any home modern beauty and style! Study these 8" x 10" photos showing newest Creo-Dipt "Double Wall" Zephyrs for sidewalls. Famous Creo-Dipt stained shingles—with insulation backing board—cut fuel bills 25%. Wide 14" exposure, deep butt shadow lines, smart corrugated texture add distinctive charm. "Double Wall" Zephyrs are ideal for remodeling and for new homes costing \$6,000 or less.

TEAR OUT COUPON.  
MAIL WITH 10¢  
TO COVER POSTAGE  
AND HANDLING.

Creo-Dipt Company, Inc., Dept. 21-A  
North Tonawanda, N. Y.  
Enclosed find 10¢ (in coin or stamps) for portfolio of remodeled or new home photos. I am interested in  
Modernizing ☐ New building ☐

Name \_\_\_\_\_  
Address \_\_\_\_\_  
City \_\_\_\_\_





Your Uncle Sam has called for  
homes  
In all the vital regions  
To House the workers for  
defense  
And all the fighting legions.

For roofs and sidewalls on  
these homes  
Wise Uncle Sam has found  
That Robert McNair Shingles  
Are the finest all-around!

\*Robert McNair Red Cedar Shingles are not designated among the hard-to-get "critical defense materials." They are available for volume sales in 1942.

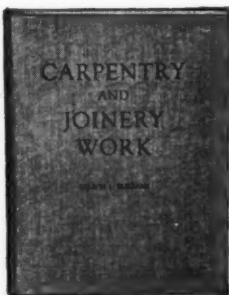
Members Red Cedar Shingle Bureau—See Advertisement—pages Four and Five

**ROBERT McNAIR SHINGLE CO.**  
VANCOUVER, BRITISH COLUMBIA  
"OVER 400 DEALERS TO SERVE YOU"

## CARPENTRY and JOINERY WORK

By Nelson L. Burbank

Formerly Instructor, Building Vocational High School  
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The new second edition has been thoroughly revised.

The manuscript was carefully checked by a former contractor and ex-editor so that this book combines the practical outlook with the author's trade teaching experience. The cardinal principles of modern residential construction are set forth simply and logically with the aid of many photographs and line drawings.

The Second Edition contains 90 revised pages with new illustrations and descriptions of new methods and materials.

The program of study as presented in this latest textbook for students of carpentry work involves class discussion, practical job work and related studies. These include Architectural Drawing, Plan Reading, Carpentry Mathematics, Business English, Applied Science, Civics and First Aid.

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BOOK DEPARTMENT

**AMERICAN BUILDER AND BUILDING AGE**

30 Church Street

New York, N. Y.

## Overcoming Mistakes in Windows

By JOHN B. G. MESKER

Vice President, Mesker Bros. Iron Co.

WITH the increase in the use of metal windows during the past decade in all types of construction, it has become increasingly important for the builder to give more attention to this detail of his construction. Window design and installation methods have changed substantially because of the high degree of specialization in metal window manufacture. Whereas the conventional style of double-hung sliding window was installed in precisely the same manner for all buildings, steel windows today are finely specialized to do specific jobs for the building in which they are installed.

Although this specialization has been a very worthwhile boon to building, it is also true that a problem in selection has been created which is more than likely to puzzle the builder from time to time in planning construction. Approximately 20 types of metal windows in more than 2000 sizes are on the market at present—which means that builders must use a great deal of forethought in ordering the window suited to the job. Opportunities for mistakes are ample, particularly when the builder handles a variety of construction which entails varied windows on each job. He must choose from basement sash, utility sash, casements for homes, security burglar-proof sash, pivoted sash, projected types, architectural projected sash, intermediate casements, monumental casements, detention windows and continuous sash, any combination of which may be desirable for a single building. Our experience has been that builders often make the error of using this or that type of window for all buildings, whereas another type can achieve better results at lower cost.

Mistakes made in window selection could often have been remedied by a study of the essential ventilation, lighting, obstruction and cost factors in the building involved. The majority of mistakes in window installation have the bad effect of requiring subsequent alterations, increasing cost, and dissatisfaction on the part of the tenant, who finds that an incorrectly designed window perhaps cannot be screened, doesn't provide ample ventilation, or offers an obstruction when open. The loss of goodwill coupled



**EASE OF MAINTENANCE:** This photograph illustrates how double casement ventilators can be easily washed and cleaned from the inside of the house. Note also that the window is dropped one light, which makes it possible to install awnings, shutters, and other window fixtures without inconvenience.





MODERN treatment of casement windows with vertical muntins omitted, and windows joined with mullions. This provides ventilation and daylight on the exposed corner of the building, as well as adding considerably to the modern appearance.

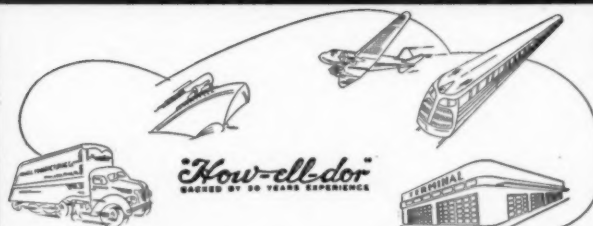
with actual reduction of profit thus is a situation which demands closer attention to windows before ground is broken for construction. Few mistakes are uncovered until after the windows are in, but are bound to show up under use, and to bring complaints from the tenant. We have found countless examples of expensive remodeling and changes in homes, factory buildings and offices which are entirely traceable to installation of a window not aligned for the specific use of the building. Ninety per cent of them might have been avoided by proper pre-selection on the part of the builder.

Before selecting windows, the builder should think of window appurtenances, such as awnings, shades, Venetian blinds, screens, shutters, awning guards and ornamentation. Particularly important is the question of Venetian blinds, which are frequently not mentioned in the plans, then found impossible to install because the windows open inward thereby preventing their use. Next, he should select the window which represents the lowest installation and maintenance cost, such as washing, reglazing, painting, etc. Steel windows can be roughly divided into residential and non-residential classifications, with an ample choice of styles for each. It is then important to consider what the building will be used for—with consideration of the specific needs from room to room, and the effectiveness of the window in relation to cost.

An ideal example is a small school building, which represents multiple window needs on a small scale. For the school building, it is wise for the builder to select commercial projected windows which can be ordered in one of three ways—first, ventilator swinging in, second, all ventilators out, or third, top ventilator out, bottom ventilator in. In deciding which, room purposes largely determine the choice of these. If screens are used for cafeteria or home economics room, ventilators should swing in. If classrooms use light-proof shades for motion picture projection, it is wise to use ventilators that swing out, thus eliminating interference with shade. In the case of windows where Venetian blinds and drapes are to be used but good ventilation is paramount, a third choice is the window where the top ventilator swings out, and the bottom vent in. This latter type insures good ventilation and flow of air for such rooms as chemistry and physiology laboratories. In the gymnasium, where wire guards for glass protection are a necessity, projected sash with outswinging vents and mechanical operators are essential. Schools are thus typical of many buildings in which varied rooms required separate styles of windows. It is surprising to note how many such buildings have been equipped with one type of window throughout, resulting in heavy expense for special screens and guards, and even replacements.

In the home field, a still larger choice exists, and a wider scale of requirements which builders should consider. While it is not often realized, steel casements for homes sometimes offer more problems in planning than industrial windows. The home must have roller shades, drapes, curtains or Venetian blinds; often has

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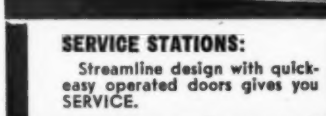


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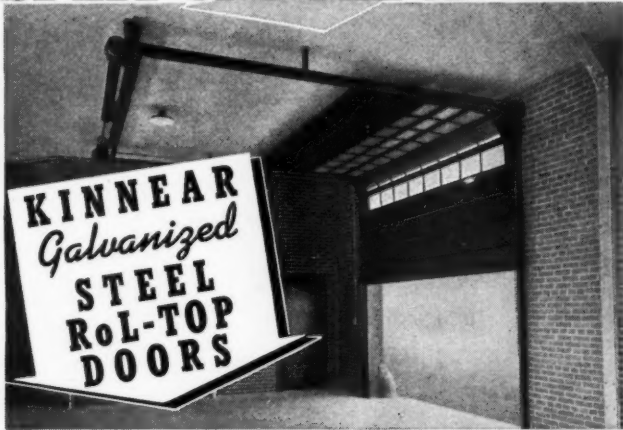
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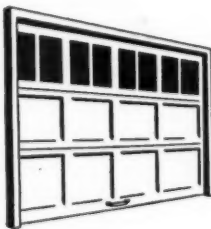
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## Overcoming Mistakes in Windows

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awnings and other fixtures which means considerable danger of dissatisfaction unless each window is properly geared to the room.

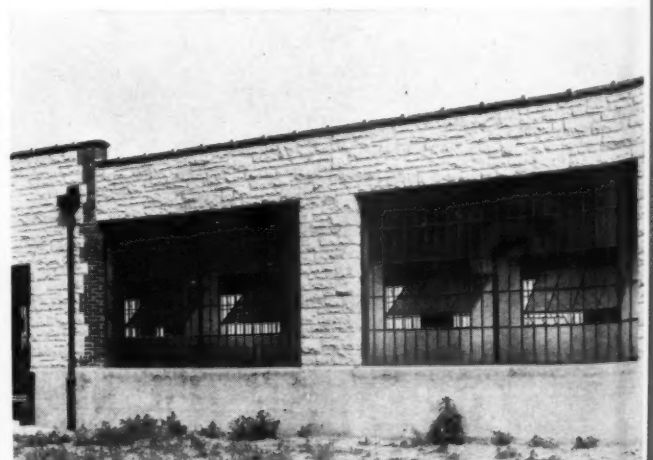
Principal considerations are, first: the living room. Here large windows may be used, eight lights wide if daylight is a factor. Ventilators for the most part should be in the center of the window with stationary lights on the sides to protect draperies or curtains from contact with the insect screen. If awning may be added later on, it is wise to use a casement that has ventilators located one light down from the top, with the top row of lights stationary to provide ample room for ventilators to clear the awning. (This is a frequent mistake.)

Bedrooms: Here the prevailing breeze is a major consideration, as well as other buildings which in close proximity interfere with or direct the breeze. For maximum ventilation, windows with 100% ventilation are most desirable, arranged as a "scoop" to bring in the largest amount of moving air without extra cost. Frequently builders specify a casement bedroom window, neglecting to state whether the vent swings right or left, which means that later on the tenant will find his window ventilator effectively walls off any breeze from entering the bedroom. For winter use, a window innovation which will pay any builder is the small sill ventilator without screens, for providing ample ventilation during rain or snowstorms. These can be left unscreened for winter use only—and though the cost is slightly higher, a solid selling point for the house is a result.

Bathrooms: A common mistake in home plans is drawing in a 4-light high window for the bathroom to match in appearance the 4-light high windows on the same elevation with the result that when the tub is installed, it conflicts with the window which is installed much lower than the top of the tub. Drawing the elevation with windows all to duplicate height without consideration of the plan often means last minute alterations in brick work. The three-light high window is most versatile for bathrooms, allowing ample clearance for tubs and toilets.

Another mistake is frequently made here in connection with privacy—by failure to specify a window with a ventilator which swings opposite the nearest point of passing traffic—usually the sidewalk. It goes without saying that bathroom windows should have obscure glass, and should be single ventilator types which, when open, swing in a direction that affords maximum privacy. Where extreme privacy is desired, windows are obtainable with transom vents only, swinging out at the height of the average person's head. Specifying the correct window in this instance is no more expensive, but pays excellent dividends in good will, especially with the women buyers.

Kitchen: Again, builders are prone here to specifying too large a window, with the result that arrangement of sink, appliances, cabinets, etc., is difficult. It is usually more convenient to use a 3-light high window over the sink for general satisfaction with the swing of ventilators to scoop utmost breeze. Large windows where the kitchen wall will not be used for range or refrigerator, 4 lights high, are ideal for a better ventilated and lighted kitchen, and permit double ventilators to capitalize on breeze from either direction.



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**Garage:** Here many builders make the most common mistake—that of from force of habit specifying screened steel windows for the garage, which logically does not require the extra expense of ventilated and screened windows. Nonscreen windows and even nonventilated windows installed here are satisfactory from most standpoints, and often can result in a substantial saving, for neither ventilation nor insect protection is required in the garage.

In the industrial building classification, opportunities for mistakes are fewer, but opportunities for better installation even more frequent. It is wise in building an industrial structure, such as factory or office, to consider needs wall by wall or room by room. For example, where windows are out of reach, necessitating mechanical operators for opening and closing, the solution is the pivoted sash, which can be more inexpensively and easily operated. Where screens are required, commercial projected-in sash is desirable. The mistake of using pivoted sash or ventilators on the first floor, near congested alleys, is a costly error from all standpoints, for such windows are likely to be twisted, bent and broken from being struck by trucks. Generally, first floor windows near traffic zones should swing inward, unless this obstructs traffic within the building too greatly. A study of the use of building plus traffic movement around it will help greatly to make a proper choice.

When building a structure which may contain valuable merchandise, tools, and foods, etc., it is wise to plan security sash for the rooms thus concerned, which provides maximum strength and protection by means of heavier metal guard bars built integral with the window. Often this is an economy point for the tenant, even though initial cost may be higher.

Another worthwhile consideration is the use of mullions or connecting bars to make windows any width for larger buildings—and to economize through the fact that windows are cheaper than walls, and provide more light and ventilation. Still another in connection with turning out a more handsome window installation is omission of vertical muntins, which reduces cost considerably, as well as "streamlining" the appearance of the building. Glazing cost, washing and replacement expense may be thus reduced, as well as lowering the cost per square foot of window. Essentially, the builder may take a choice of as many as ten types of windows, and among them find one which best suits the balance of economy, ventilation, light, safety and efficiency.

Our experience has been that most mistakes occur from over-use of a single style of window, or unfamiliarity with the wide variety which are available for all types of construction. Consequently, we list below the points which are most worthy of consideration when making initial building plans, in the form of "mistakes" which can be rectified in advance.

1. Projection from building—many ills occur when the window is incorrectly chosen from this standpoint. As mentioned above when low-height windows project outward from the building, they are subject to continual damage from trucks, automobiles, etc., as well as involving risk of striking passersby when opened suddenly. Ventilators opening inward may take up too much valuable space. In the home field, windows projecting incorrectly may scoop in rain, dust, etc., or rip awnings, even preventing awning installation. Solution to all these problems lies in choice of ventilator types, rather than windows themselves. Only in extreme cases is it required to have clearance both inside and outside the building. Transom types, casements with upper and lower venti-

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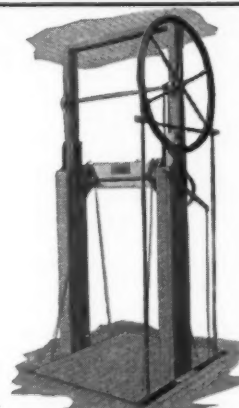
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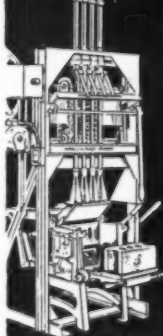
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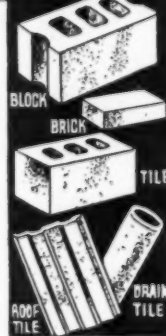


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## Overcoming Mistakes in Windows

(Continued from page 93)

lators opening in opposite directions, should alike be considered.

2. Wasted expense—for both residential and industrial buildings, it is wise to figure costs from both installation and upkeep angles. Using larger areas of glass is a simple means of economizing. Four panes will often do where 8 are too expensive. In industrial windows, 14 x 20 glass is cheaper per square foot than 12 x 18, cheaper because less metal is contained, and glazing costs are commensurately lower. There is often a considerable improvement in appearance also resulting. In homes, casement windows with vertical muntins omitted are less expensive, but are often prohibited by architectural style. Buying correctly and to a set standard where a large number of homes are involved means major savings as well as satisfaction. For extreme economy, crank operators at the sill can be eliminated by substituting cheaper screens with sliding wickets.

3. Overlooking saving opportunities—perhaps one outstanding mistake in home building is the use of screened, ventilated windows in garages, which results in a waste of money as neither will be needed except in rare instances. Builders should be careful to omit more expensive types in garages, industrial storerooms, out-buildings, etc., for the much lower cost window.

4. Failure to plan for maintenance—many steel window installations quickly become unsightly because they are difficult to clean and keep at peak appearance. Most such instances are caused by too small panes of glass, and difficulty of reaching. Builders can choose better and more cleanable windows with larger glass and pivot-sash where work carried on inside produces large amounts of dust or other soil.

5. Ignoring architecture—windows play an important role in the architecture of home and business building alike; are frequently out of step with the rest of the building. For modern buildings, the omission of muntins makes a handsome design at lower cost. Smaller casements are ideal for the "period" building, and can be chosen to closely fit all types of architecture without paying a premium. Generally, modern types without vertical muntins are best with ranch type homes, moderns, American Modern, Spanish and Classic. For English types, Tudor, Cape Cod, French, Provincial, Georgian, Colonial, English, etc., the English type with all muntins remaining is an eye-appealing asset.

6. Incorrect installation—it is surprising how many builders mistakenly install windows upside down or inside out. This mistake is usually caused through unfamiliarity with new window types, and destroys the value of the window from all but a light standpoint. In bad weather, rain, dust, snow, and dirt are let in rather than deflected, and the window is useless. It is possible that tenants will not know that windows are thus upside down or inside out, but eventually their complaints will bring out that point. The builder should study the window thoroughly before beginning installations, marking all for the precise way in which they are to be used. Literally hundreds of windows are thus improperly installed each year—and every one brings a complaint from the user.

Summed up, it is the builder's job to approximate in advance the type of window which will fit the requirements of a home or industrial building from an architectural standpoint, economy, illumination, ventilation and ease of operation. Once this is done, he will find it possible to not only save money on every job, but to build goodwill for his own work for the future.

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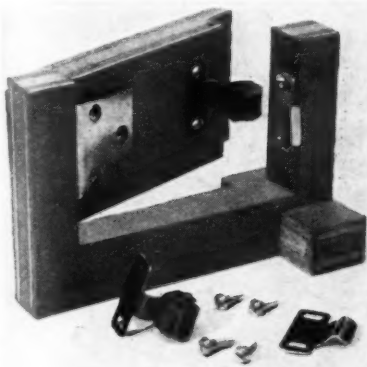
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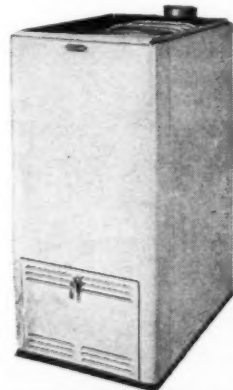
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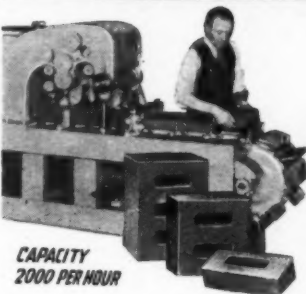
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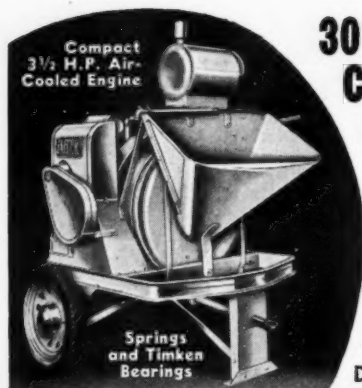
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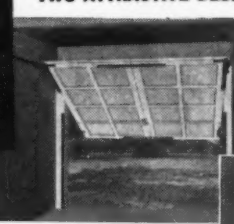
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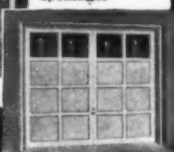
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